freud®

NORMATIVA EN 847-1/2 EUROPEA

CATALOGO TESTE PERFORMANCE

CERTIFICATE

TÜV MANAGEMENT SERVICE

Certificato Nr 50 100 4138

Si attesta che / This is to certify that

IL SISTEMA QUALITÀ DI
THE QUALITY SYSTEM OF

POZZO SPA

freud

SEDE LEGALE:
VIA PADOVA 3 - Z.I. FELETTO UMBERTO
I-33010 TAVAGNACCO (UD)

UNITA' PRODUTTIVE:
Z.I. VIA MARCUZZI
I-33034 FAGAGNA (UD)
S.S. 464 KM 43
I-33035 MARTIGNACCO (UD)
VIA UDINE NUCLEO PRADIS
I-33010 COLLOREDO DI MONTE ALBANO (UD)

È CONFORME AI REQUISITI DELLA NORMA
HAS BEEN FOUND TO CONFORM TO THE REQUIREMENTS OF

UNI EN ISO 9001:2000

Questo certificato è valido per il seguente campo di applicazione
This certificate is valid for the following product or service range

Progettazione e produzione di lame circolari, teste portacoltelli, frese saldobrasate, punte e componenti in Metallo Duro (EA 17)

Design and manufacture of saw blades, cutter heads, brazed cutters, router bits and Hard Metal components (EA 17)

Data/Date: **2004-03-16**
Data di scadenza/Expiry date: **2007-03-03**

Lead Auditor: Giuseppe Peloso

Per l'Organismo di Certificazione
For the Certification Body
TÜV Italia S.r.l.
Cinisello Balsamo (MI)
Nico Mastrorillo
Management Representative

SINCERT

ZERTIFIKAT ◆ CERTIFICATE ◆ CSV/JETENACTBO ◆ CERTIFICADO ◆ CERTIFICAT ◆ CERTIFICATO

Freud's philosophy is based on three principles: Safety, Efficiency and Precision.

Over 40 years experience in the woodworking tools industry, using advanced technology and a specialized work force.

ISO 9001:2000

The Firm applies a Quality System ISO 9001:2000 for Manufacturing and Selling of Carbide Tipped Sawblades and Manufacturing of Hard Metal Components.

Freud tools are acknowledged as amongst the very best and enjoy a worldwide reputation.

The Firm reserves the rights to partially modify this catalogue without any obbligations to third parties.

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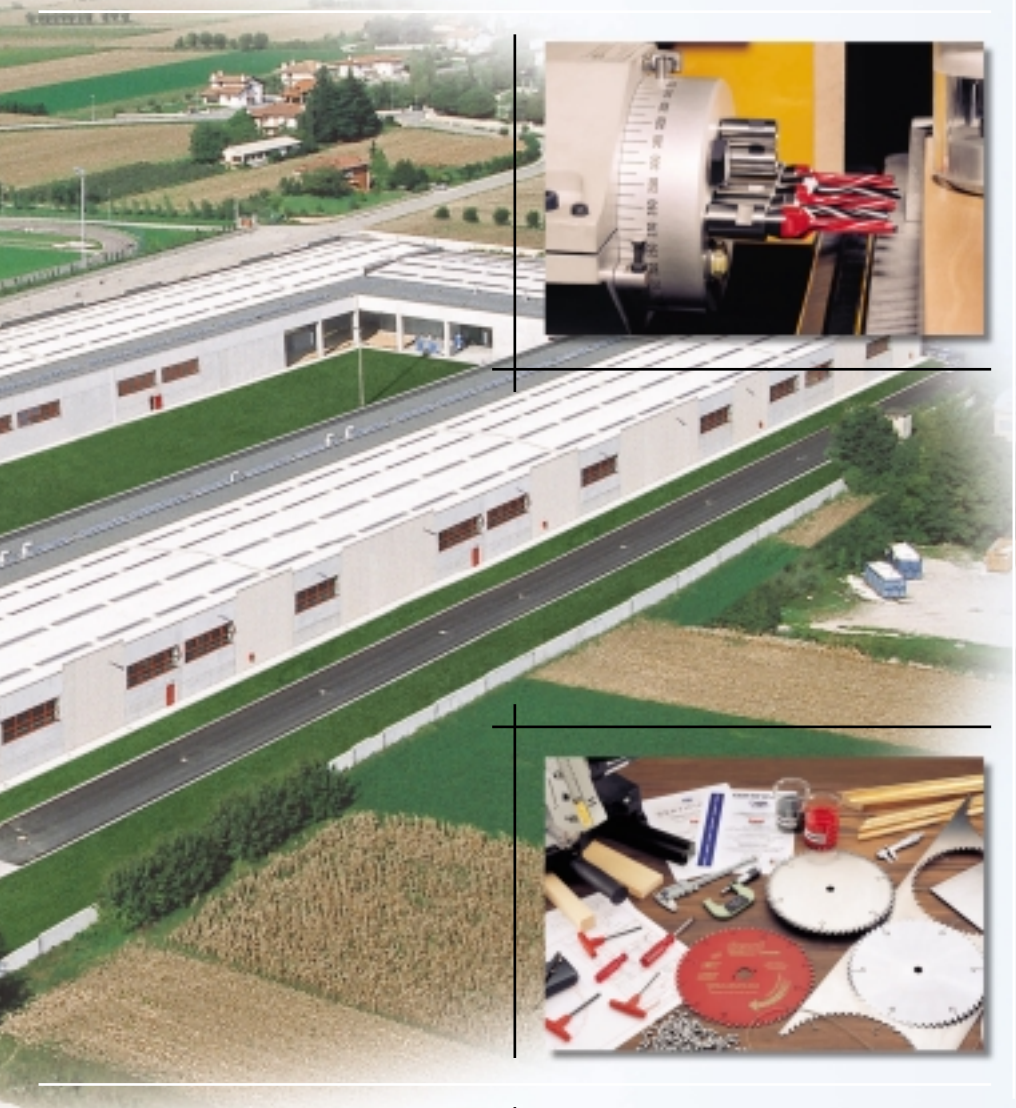
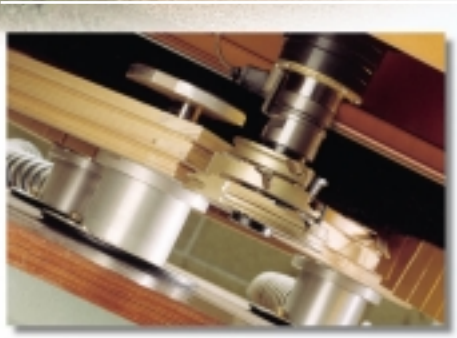
Made in Italy



La filosofia Freud si basa su tre principi: Sicurezza, Precisione ed Efficienza.



Da oltre 40 anni l'azienda produce utensili per la lavorazione del legno avvalendosi delle tecnologie più avanzate e di personale altamente specializzato.

L'ottima qualità degli utensili Freud è riconsciuta a livello mondiale.

ISO 9001:2000

LA FREUD ATTUA UN SISTEMA DI GESTIONE DELLA QUALITÀ CERTIFICATO ISO 9001:2000 PER LA PRODUZIONE E VENDITA DI LAME CIRCOLARI CON RIPORTI IN HM E PRODUZIONE DI COMPONENTI IN METALLO DURO SINTERIZZATO.

L'AZIENDA SI RISERVA IL DIRITTO DI APPORTARE IN QUALSIASI MOMENTO EVENTUALI MODIFICHE A QUESTO CATALOGO, SENZA INCORRERE IN ALCUN TIPO DI OBBLIGAZIONE.

UFFICI, PRODUZIONE TESTE.

OFFICES, CUTTERHEADS PRODUCTION PLANT.

PRODUZIONE LAME.

SAWBLADES PRODUCTION PLANT.

PRODUZIONE METALLO DURO.

HARD METAL PRODUCTION PLANT.

PRODUZIONE PUNTE.

ROUTER BITS PRODUCTION PLANT.

TRADIZIONE E TECNOLOGIA

> Per rispondere con efficacia e tempismo ad esigenze sempre più particolari nel settore degli utensili per la lavorazione del legno, sono indispensabili tecnologie avanzate ed assoluta affidabilità qualitativa.

> FREUD, leader nel settore, da oltre quarant'anni offre soluzioni specifiche per soddisfare qualsiasi necessità.

> La FREUD POZZO è specializzata nella costruzione di lame circolari (il numero di sole lame prodotte annualmente è di alcuni milioni di unità), di utensili per la produzione di serramenti, di punte saldobrasate ed a fissaggio meccanico ed inoltre di tutta una serie di placchette, denti di sega e coltelli a gettare in METALLO DURO (HM).

> La produzione in proprio del METALLO DURO garantisce la possibilità di ottimizzare il grado di durezza in base al tipo di lavorazione per il quale l'utensile è stato concepito.

> Per dare la possibilità a tutti, in tutto il mondo, di conoscere il marchio FREUD, l'azienda è presente in tutte le più grandi fiere organizzate nel mondo, da Milano (INTERBIMALL-XYLEXPO) a Colonia (DYTEC INTERNATIONALE EISENWARENMESSE), da San Pietroburgo (TEKHNOLES) a Sidney (AWISA), da Hannover (LIGNA) a Chicago (NHS - NATIONAL HARDWARE SHOW), da Atlanta (IWF - INTERNATIONAL WOOD-WORKING FAIR) a Pechino (INTERNATIONAL WOODWORKING MACHINERY).

freud®

TRADITION AND TECHNOLOGY

> Responding with efficiency and timing to needs all the more specific in the production of woodworking tools, it is essential that we apply the most advanced technology in order to guarantee absolute reliability and quality.

> FREUD, a leader in this field, has been offering specialized solutions to satisfy any possible requirement for more than forty years.

> FREUD POZZO is specialized in the construction of circular saws (the number of sawblades manufactured each year alone is estimated at around several million), tools for the construction of window and door frames, brazed and mechanically mounted tips and a whole range of carbide inserts, sawblade tips and disposable knives all constructed in Hard Metal.

> Our very own production of HARD METAL guarantees the possibility to improve the grade of hardness in corrispondence to the kind of work with which the tool has been designed.

> To give everybody the possibility to recognize the FREUD mark, the company is present at all the leading woodworking exibitions all over the world: at Milan (INTERBIMALL-XYLEXPO) at Cologne (DYTEC INTERNATIONALE EISENWARENMESSE), at Saint Petersburg (TEKHNOLES) at Sydney (AWISA), at Hannover (LIGNA) at Chicago (NHS-NATIONAL HARDWARE SHOW), at Atlanta (IWF - INTERNATIONAL WOOD-WORKING FAIR) at Pecking (INTERNATIONAL WOODWORKING MACHINERY).

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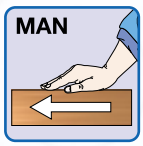
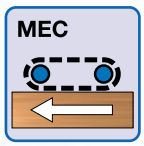
LEGENDA ◆ KEY

ROTAZIONE DESTRA O SINISTRA
RIGHT HAND OR LEFT HAND

ROTAZIONE DESTRA E SINISTRA
RIGHT HAND AND LEFT HAND



UTENSILI PER AVANZAMENTO MANUALE
TOOLS FOR MANUAL FEED



UTENSILI PER AVANZAMENTO MECCANICO
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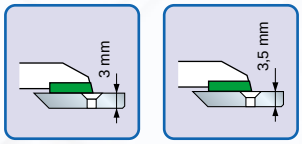
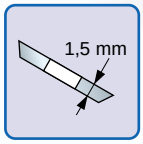


COLTELLI RIAFFILABILI IN HM
RESHARPENABLE CARBIDE KNIVES



COLTELLI A GETTARE CON SP. 1,5 mm
DISPOSABLE KNIVES WITH 1,5 mm THICKNESS

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

QUESTO SIMBOLO IDENTIFICA GLI UTENSILI CHE MONTANO COLTELLI SISTEMA PERFORMANCE IN METALLO DURO FREUD.
THIS SYMBOL IDENTIFIES TOOLS THAT MOUNT PERFORMANCE SYSTEM KNIVES IN FREUD'S VERY OWN HARD METAL.

• EN 847-1 •
R&S - SV/R 126/130

GLI UTENSILI A CUI SI RIFERISCE QUESTO SIMBOLO HANNO SUPERATO LE PROVE TECNOLOGICHE RICHIESTE DALLA NORMATIVA EUROPEA EN 847-1. AD OGNI UTENSILE CONFORME È STATO ASSEGNATO UN NUMERO DI REGISTRAZIONE, CHE VIENE RIPORTATO COME IN QUESTO ESEMPIO.
THIS SYMBOL REFERS TO TOOLS THAT HAVE PASSED THE TECHNICAL TESTS IMPOSED BY THE EUROPEAN NORM EN 847-1. EACH TOOL THAT CONFORMS TO THIS NORM HAS BEEN ASSIGNED A REGISTRATION NUMBER AS IN THE EXAMPLE ABOVE.

COD.	CODICE ARTICOLO ITEM CODE	**B**	SPESSORE DI TAGLIO CUTTING THICKNESS	**Z**	NUMERO DI DENTI NUMBER OF TEETH		
D	DIAMETRO DIAMETER	**d**	FORO BORE	**R**	RASANTI SPURS	**I**	INSERTI INSERTS

TESTE PORTACOLTELLI FREUD: TECNOLOGIA, SCHEDE TECNICHE, PROGETTI, CONSIGLI D'UTILIZZO

FREUD CUTTERHEADS: TECHNOLOGY, TECHNICAL SCHEDULES, PROJECTS, TIPS FOR USE

Each tool has its origins in the research and development department, where their characteristics are optimized, based on the necessities of our Clients.

Applying the most up to date technology comes with the aim of realizing an efficient and secure tool for the user.

Each tool is constructed with shear and hook angles so as to permit the best possible finish.

◆ ***COLTELLI RIAFFILABILI*** ◆

SISTEMA PERFORMANCE

PERFORMANCE SYSTEM

◆ ***RESHARPENABLE KNIVES*** ◆

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Made in Italy

Ogni utensile ha origine nel reparto di ricerca e sviluppo dell'azienda, dove ne vengono ottimizzate le caratterisitiche in base alle effettive necessità del Cliente.

L'applicazione delle migliori tecnologie ha lo scopo di realizzare utensili efficaci e, allo stesso tempo, sicuri per l'utilizzatore.

Ogni utensile viene costruito con angoli mordente ed assiale tali da permettere la miglior finitura possibile.

Tra tante copie, meglio l'originale!

Nothing beats the original!

Gli utensili Freud sono prodotti qualitativamente superiori perché realizzati con le più avanzate tecnologie, con materiali di prima scelta ed avvalendosi di personale altamente specializzato.

NORMA EUROPEA EN 847-1

> Per il 2002 il programma teste portacoltelli standard è stato ridisegnato e rinnovato in base alla nuova norma europea UNI EN 847-1 per l'eliminazione e la riduzione dei pericoli derivanti dall'utilizzo di tali utensili. Nell'avanzamento manuale si limita il fenomeno del rifiuto a velocità facilmente controllabili e, in caso di contatto con l'utensile, si minimizza la gravità di eventuali lesioni. Gli utensili conformi riportano la scritta "**MEC**" o "**MAN**", rispettivamente per l'uso su macchine con avanzamento meccanico integrato e con avanzamento manuale.

> Le modifiche apportate ai nostri utensili sono fondamentalmente le seguenti:
- per ridurre al minimo il rischio di infortuni, gli utensili sono costruiti a "forma chiusa" e con limitatore di truciolo avente sporgenza ridotta;
- sono state aggiunte delle spine per impedire la rotazione dei singoli utensili che compongono i gruppi;
- per agevolare lo scarico del truciolo sono stati revisionati i vani di scarico e previsti dei deflettori in corrispondeza degli inserti.

CARATTERISTICHE TECNOLOGICHE DELLE TESTE PORTACOLTELLI TRADIZIONALI E SISTEMA PERFORMANCE:

> L'esclusivo metallo duro Freud di cui sono costituiti i taglienti viene prodotto in base all'utilizzo cui è destinato per ottenere le maggiori durata e qualità di finitura possibili. Inoltre, le speciali e sofisticate apparecchiature utilizzate garantiscono una costante precisione nella produzione dei coltelli, che sono perfettamente sostituibili anche a distanza di tempo (la Fig. 1 mostra il metallo duro al microscopio elettronico).

> Gli angoli caratteristici delle teste portacoltelli e Sistema Performance sono (Figg. 2 e 3):
angolo mordente (α)**:** dipende dal tipo di materiale da lavorare.
angolo di cuneo (β)**:** è la diretta conseguenza degli angoli α e γ.
angolo di spoglia (γ)**:** varia secondo il materiale lavorato e lo spessore di taglio.
angolo assiale (δ)**:** serve per ottenere una miglior penetrazione nel materiale lavorato ed un'asportazione graduale del truciolo. Nel caso di utensili con differenze di diametro sul profilo, serve a mantenere costante l'angolo mordente.

Freud products are superior tools because they are made using the most advanced technology, with premium quality materials and highly qualified staff.

EUROPEAN NORM EN 847-1

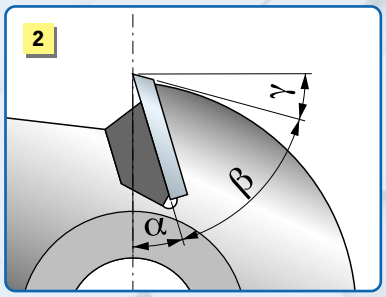
> For 2002, the standard cutterhead programme has been re-designed and renewed, based on the new european norm UNI EN 847-1, to eliminate and reduce dangers that may derive from these tools. In the case of manual feed, the kick-back effect is greatly reduced and easily controlled by the operator, in case of physical contact with the tool, serious injury to the operator is minimized. Tools that conform to these norms have "**MEC**" or "**MAN**" incisioned on to them and are to be used respectively on machines with mechanical or manual feed.

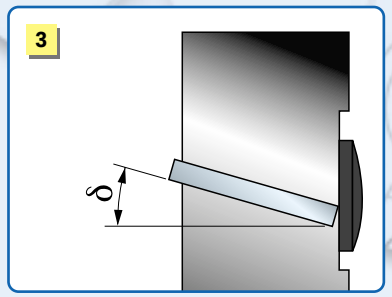
> The fundamental modifications carried out on our tools are the following
- to reduce the risk of injury, our tools are constructed with a "closed form" and an anti kick-back device with limited projection;
- pins have been added to stop each single component of the group, from rotating individually;
- large openings for better chip distribution have been revisioned and deflectors for inserts are forseen.

TECHNICAL FEATURES OF TRADITIONAL AND PERFORMANCE CUTTERHEADS

> Freud's exclusive HM used to produce each cutter, is modified according to the kind of work which the tool will undergo, in order to obtain the best duration and quality finish possible. Special instruments guarantee precision and therefore perfect replacement of the knives we produce without the need to modify the cutterhead even after prolonged use (Fig. 1 shows hard metal under the microscope).

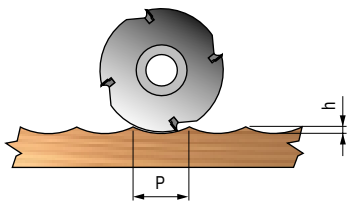
> The most characteristic angles of a cutterhead are (Fig. 2 and 3):
hook angle (α): depends on the type of material to be cut.
wedge angle (β): this angle is a direct consequence of angles α and γ.
clearance angle (γ): depends on the material to be cut and the thickness of the cutting edge.
shear angle (δ): necessary to obtain a better penetration into the material to be cut and a gradual removal of the chips. When the tools have different diameters, this angle allows the hook angle to remain constant.





CARATTERISTICHE TECNOLOGICHE
TECHNOLOGICAL FEATURES

4



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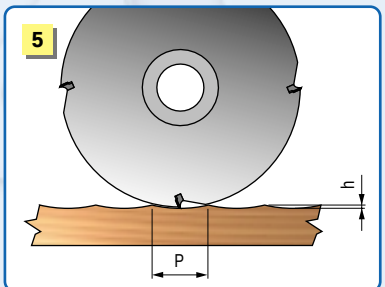

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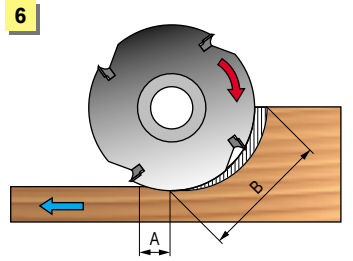

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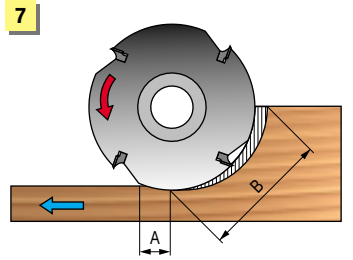

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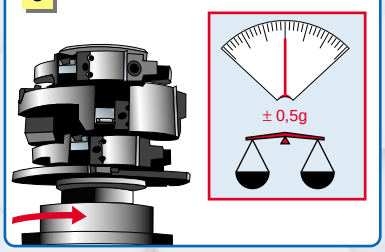

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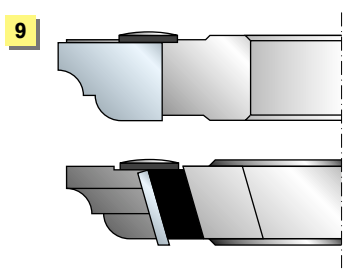


> La finitura ottenuta è misurata dalla rugosità superficiale del legno e dipende da molti fattori: l'avanzamento del legno in macchina, il numero di giri a cui lavora l'utensile, la concordanza o discordanza della lavorazione, le caratteristiche tecniche dell'utensile.

> Oltre agli angoli mordente, di cuneo ed assiale, anche il diametro influenza la qualità della finitura (Figg. 4 e 5). A pari avanzamento e numero di giri si ha lo stesso passo (lunghezza di asportazione - P); mentre la profondità (h), e quindi la rugosità superficiale, si riduce proporzionalmente all'aumentare del diametro.

> Per quanto riguarda la rotazione e l'avanzamento distinguiamo tra:
lavorazione in concordanza: si ha quando la direzione di avanzamento ed il senso di rotazione hanno lo stesso verso (Fig. 6).
lavorazione in discordanza: si ha quando la direzione di avanzamento ed il senso di rotazione sono opposti (Fig. 7).

> Durante l'asportazione si verificano 2 situazioni (Figg. 6 e 7):
nella **zona A** si ha lo schiacciamento del materiale in lavorazione, nel caso in cui si lavori in discordanza;
la zona B è l'area dove l'utensile s'incunea nel materiale e ne asporta il truciolo.

> Ogni utensile o gruppo per serramenti viene progettato dal nostro ufficio ricerche e sviluppo con una struttura informatica in grado di ottimizzarne le caratteristiche in base alle effettive necessità del Cliente. Tale tecnologia viene applicata anche alle macchine utensili per ottenere precisioni mai raggiunte nel campo degli utensili per la lavorazione del legno, grazie anche alla collaborazione di personale altamente specializzato.

> L'equilibratura serve ad eliminare le vibrazioni che si avrebbero in fase di lavorazione, dovute alla disomogenea distribuzione della massa ferrosa. Vengono eseguite tre equilibrature distinte: sull'utensile singolo, sul gruppo completo ed infine la terza, importantissima, sull'insieme di gruppi che vanno assemblati sullo stesso albero della macchina (Fig. 8).

> La messa a punto finale avviene nel reparto collaudo e consiste in una simulazione di produzione: per ogni singolo gruppo viene "battuto" un campione legno con il profilo richiesto. In tal modo si fornisce al Cliente un prodotto veramente "chiavi in mano", subito produttivo e quindi proficuo.

VANTAGGI DELLE TESTE PORTACOLTELLI SISTEMA PERFORMANCE

> Per TESTA PORTACOLTELLI SISTEMA PERFORMANCE si intende un utensile rotativo fornito di più taglienti disposti geometricamente sulla sua circonferenza e costituiti da coltelli sagomati con spessore di 3 mm, riaffilabili 6-8 volte (Fig. 10) e bloccati meccanicamente sul corpo dell'utensile (Fig. 9).

> The work piece finish is given by the surface roughness and depends on many factors: the feed rate, the tool's RPM, if the tool cuts against or with the feed and the tool's general geometry such as the hook, wedge and shear angles.

> The tool's diameter also influences the work piece finish (Fig. 4 and 5). If the feed rate and the tool's RPM are the same, the pitch (P) will also be the same, therefore the depth and the surface roughness (h) is reduced as the diameter of the tool increases.

> The tool cuts **"with the feed"** when the rotation and feed direction are the same (Fig. 6), the tool cuts **"against the feed"** when the rotation and feed direction are opposite (Fig. 7).

> During the removal of chips, areas **A** and **B** can be distinguished (Fig. 6 and 7):
area A is where the material is compressed if the rotation is "against the feed"; **area B** is where the tool penetrates the material and removes the chips.

> Every tool is designed by our research and development department based on the Clients specific needs and the same technology is applied to manufacturing machines that, combined with highly specialised workers, allow precision levels never reached before in the woodworking field.

> Every tool is balanced to remove vibrations caused by bizarre distribution of the tool's mass, harmful during the woodworking process. Three balancing operations are done: first on the single tool, second on the set and finally, the third, on the entire group of tools that will be fitted on the same spindle (Fig. 8).

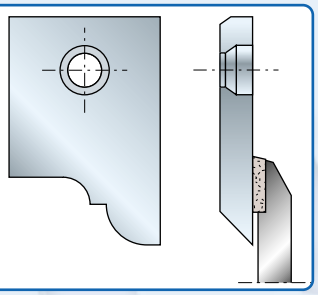
> The final tuning operation is done in the testing room and consists of simulating actual working conditions: each set is used to cut a wood sample of the requested profile. All of these testing phases allow FREUD to supply the Client with a product that is ready for use and immediately operational, allowing added savings for the Client.

ADVANTAGES OF PERFORMANCE SYSTEM CUTTERHEADS

> A Performance System Cutterhead is a rotating tool consisting of various cutting edges, geometrically fitted on its circumference. The cutting edges are 3 mm thick profiled knives that can be sharpened 6-8 times (Fig. 10), mechanically locked to the tool's body (Fig. 9).

CARATTERISTICHE TECNOLOGICHE
TECHNOLOGICAL FEATURES

10



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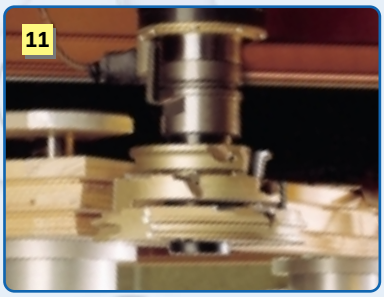

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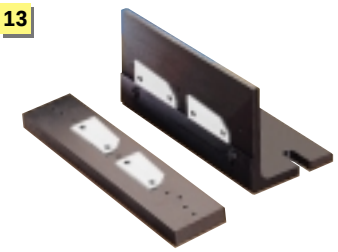


14

> I coltelli Sistema Performance sono costruiti con metallo duro che la Freud produce in 6 gradi di durezza differenti, a seconda del materiale da lavorare: legni teneri e duri, massicci, abrasivi, truciolare, melaminico, placcati, M.D.F. ecc. È possibile utilizzare metallo duro con elevati gradi di durezza, tali da permettere una tenuta superiore addirittura del 30% rispetto all'HM impiegato per taglienti da saldobrasare e destinati alla lavorazione di materiali molto abrasivi.

> Oltre ad essere una soluzione che praticamente sostituisce le frese saldobrasate, grazie all'intercambiabilità dei profili sullo stesso utensile e alla durata dello stesso, si ha una notevole convenienza nell'ambito della produzione su macchine CNC, dove i fermi macchina risultano molto costosi: infatti, dovendo sostituire un coltello usurato o danneggiato non è necessario smontare l'utensile dalla macchina, poiché è sufficiente sbloccare le viti che lo trattengono nella sua sede. Un utensile saldobrasato, invece, dovrebbe essere sostituito completamente e quindi bisognerebbe prevedere un utensile di scorta per evitare fermi macchina con tempi lunghi.

> Oggi la Freud dispone anche di una gamma completa di utensili con coltelli performance standard o personalizzabili per pantografi manuali e a CNC (Fig. 11).

> Il sistema performance risulta vantaggioso anche se paragonato alle teste portacoltelli tradizionali, grazie alla possibilità e alla facilità di affilatura dei coltelli e al basso costo dell'operazione, dato che non servono macchine particolari (è sufficiente un lapidello o un'affilatrice - vedi Fig. 12) né personale specializzato.

> Anche dopo la riaffilatura, i coltelli Performance mantengono il profilo originale ed il diametro di taglio dell'utensile, poiché si possono avere perdite massime di 0,15÷0,20 mm (Fig. 10).

> Consigli per una corretta affilatura su lapidello o affilatrice:

1) Applicare l'attrezzatura TA01M o TA02M (Fig. 13) sul piano del lapidello o dell'affilatrice.

2) Fissare i coltelli, per mezzo delle viti in dotazione, sull'attrezzatura.

3) Procedere all'operazione di affilatura contemporanea dell'intero set di coltelli.

Si raccomanda un'abbondante lubrificazione durante l'affilatura e l'utilizzo di mole diamantate (Fig. 14) con le seguenti caratteristiche: D6A2-C100-D54.

> Su richiesta, l'affilatura può essere eseguita presso la nostra sede, inviando tutto il set di coltelli ed indicando sull'ordine il codice **OPTAFF AA9.**

> Performance system knives are constructed in hard metal, which Freud produces in 6 grades of hardness, second to the material to be worked: soft and hardwoods, heavy, abrasive, chipboard, melamine, laminated, M.D.F. etc. It is possible to use HM with a high grade of hardness, so as to permit a superior hold of 30% more with respect to the HM used for brazed cutting edges destined to work very abrasive materials.

> Other than being a solution that practically substitutes brazed cutters, thanks to the interchangeability of the profiles on the same tool and the duration of the tool itself, there is a notable advantage and convenience when working on overhead CNC router machines, where machine stoppages can result costly: infact the changing of a used or damaged knife does not require the dismounting of the cutterhead from the machine, since it is sufficient to loosen the screw that holds it in place. Instead a brazed cutter must be completely changed and a substitute available to avoid time wastage.

> Freud has an entire range of tools with performance, standard or personalized knives for manual or overhead CNC router machines (Fig. 11).

> The performance system results advantageous, even when confronted to traditional cutterheads, thanks to the easiness of sharpening, low operational cost and the need of no particular machinery (the use of a flat grinding wheel or surface grinding machine is sufficient - see Fig. 12) or specialized personnel.

> Even after sharpening, performance knives maintain their original profile (Fig.10) and the tool's cutting diameter, considering maximum loses of 0,15÷0,20 mm.

> Suggestions for correct sharpening on surface grinding machine or flat grinding machine:

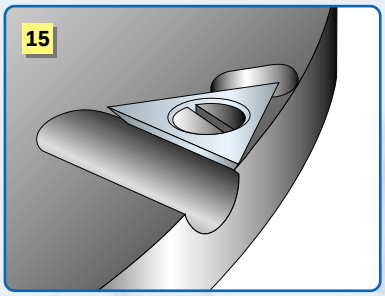
1) Fix support TA01M or TA02M (Fig. 13) onto the surface grinding machine or flat grinding machine.

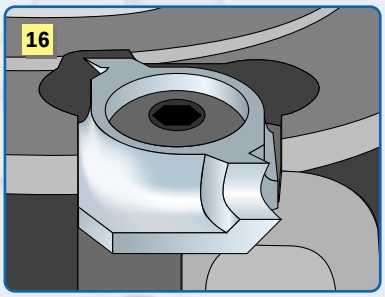
2) Fix the knives with the screws that are supplied.

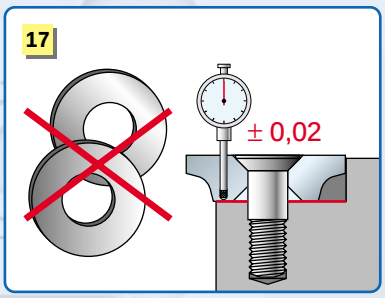
3) Procede with the sharpening of the entire set of knives.

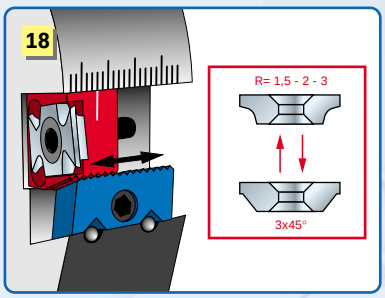
Use of abundant cooling liquid during sharpening is recommended. Use diamond grinding wheels (Fig. 14) with the following characteristics: D6A2-C100-D54.

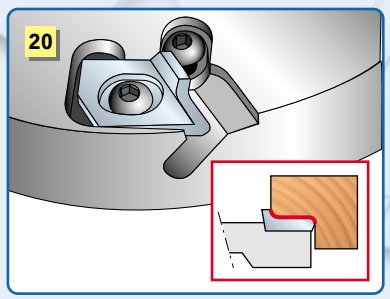
> On request, sharpening can be carried out at our premisses by simply sending us the complete set of knives and indicating on the order the code **OPTAFF AA9.**











INSERTI E RASANTI

> Il rasante triangolare (Fig. 15), costruito in HM integrale per conferire una maggiore durata al filo tagliente, è un componente utilizzato su teste con coltelli a gettare e su teste Performance per dare maggior finitura alle battute eseguite. L'ampiezza della superficie di lavoro (22 mm) ed il posizionamento del rasante sull'utensile (con angolo mordente positivo) garantiscono una finitura perfetta senza rigature (la lunghezza della battuta è minore della lunghezza del rasante).

> Caratteristica altrettanto importante è la dimensione dello scarico sul fronte: esso consente una miglior fuoriuscita del truciolo e quindi una miglior lavorabilità del rasante (Fig. 15).

> Gli **inserti smussatori e raggiatori** vengono utilizzati per eliminare gli spigoli vivi dai pezzi lavorati. Oltre a dare una miglior qualità estetica essi contribuiscono, in fase di verniciatura, a fare in modo che la vernice si depositi uniformemente sul legno.

> Gli inserti sono progettati con angolo assiale (Fig. 16) per consentire una miglior finitura nella lavorazione del legno traverso vena (si evita l'"estrazione" della parte tenera della venatura). Essi, come pure le sedi portainserti, sono costruiti con la massima precisione per garantire una costante intercambiabilità ed evitare l'uso di anellini distanziali (Fig. 17).

> Il nuovo sistema di regolazione brevettato, denominato SISTEMA NSR, è l'unico che consente di regolare gli inserti senza l'uso di strumenti di misura. La particolare sede zigrinata consente di regolare l'altezza dell'inserto con incrementi di 1 millimetro su tutto lo spessore dell'utensile, non limitatamente a posizioni fisse e con una precisione al centesimo di millimetro. Le tacche di riferimento, marcate in modo indelebile e preciso con tecnologia laser, consentono il più rapido, preciso e facile posizionamento possibile (Fig. 18). La Fig. 19 mostra le componenti del sistema NSR.

> Gli angoli dell'inserto consentono la massima finitura su qualsiasi materiale lavorato. Sulla stessa sede si possono montare inserti raggiatori (R=1,5 - 2 - 3 mm) e smussatori (max smusso possibile: 3 mm x 45°).

> **L'inserto rasante-raggiatore** combina le funzioni dell'inserto raggiatore e del rasante. Infatti, in un'unica passata esegue la raggiatura interna, la raggiatura esterna e la finitura della battuta. Esso viene costruito in HM integrale con diverse profondità di battuta e con angoli mordente ed assiale in grado di garantire la massima finitura. Nella stessa sede si possono montare inserti raggiatori di diverse misure, in modo tale da produrre battute di varie profondità (Fig. 20) con la stessa testa portacoltelli.

INSERTS AND SPURS

> The **triangular spur** (Fig. 15) is a component produced in HM to give the cutting edge a long life, used on cutterheads and on Performance tools to give a better finish on rebates. The width of the cutting surface (22 mm) and the position of the spur (positive hook angle) guarantees a perfect finish without leaving a trace (the length of the rebate is less than the length of the spur).

> Another important characteristic is the size of the chip discharge area in front of the spur: this allows excellent chip discharge and therefore the spur is more efficient (Fig.15).

> The **rounding and bevelling inserts** are used to remove sharp angles from the work piece. These inserts give a better quality finish allowing various wood coatings to deposit more uniformly.

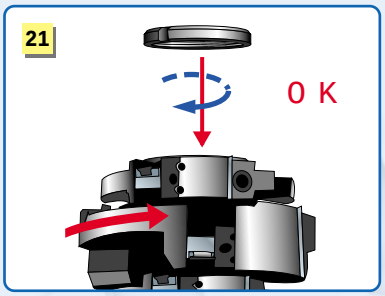
> Inserts with a shear angle (Fig. 16) allow a better finish when the wood is cut across the grain. Inserts and their seats are manufactured with extreme precision and this allows them to be replaced without the need of spacing rings (Fig. 17).

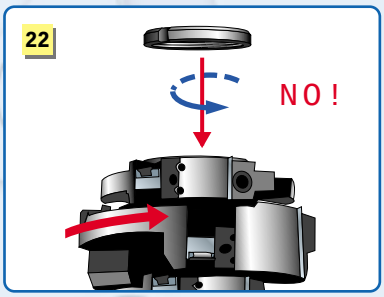
> The new and patented NSR ADJUSTABLE INSERT SYSTEM is the only one that allows adjustments without the need of measuring instruments. This particular system allows the inserts to be adjusted with precision of a hundredth of a millimetre on the entire length of the tool. The indelible reference marks are etched with extreme precision by lasers and allow a rapid and simple repositioning of the insert (Fig. 18).
Fig. 19 shows the components.

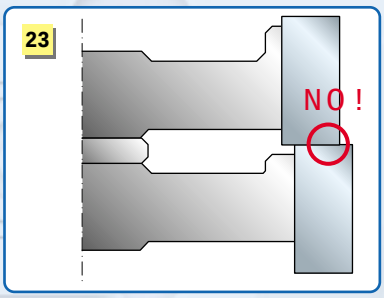
> The inserts have a positive hook angle and a shear angle that allows an excellent finish on any type of material. The same seat can be fitted with rounding inserts (R= 1,5 - 2 - 3 mm) or bevelling inserts (3 mm x 45°).

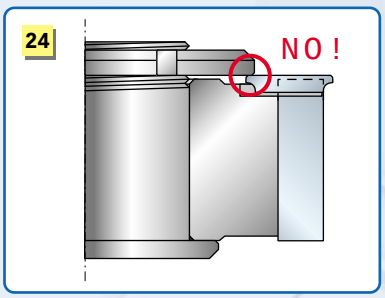
> The **rounding spur** combines the characteristics of a rounding insert and a spur. With a single operation, the rebate is internally and externally rounded and finished. These solid carbide inserts are manufactured with various rebate depths to satisfy clients needs. Extremely good finish is guaranteed by the inserts shear - hook angle combination. In the same seats, different inserts can be fitted so that the same tool can cut rebates of different depths (Fig. 20).

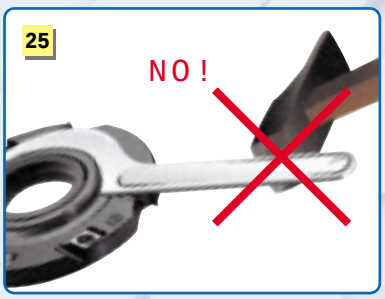
PROCEDURE DI LAVORO SICURE
SAFE WORKING PRACTICE

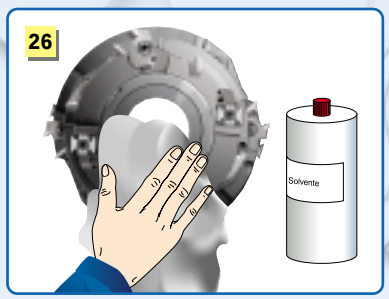












> Gli utensili devono essere maneggiati e utilizzati da persone addestrate ed esperte, in possesso delle conoscenze necessarie.

> Non si deve superare la massima velocità permessa, marcata sull'utensile. Quando definita, la gamma di velocità deve essere rispettata.

> Utensili e parti di utensili devono essere bloccati in modo che non si allentino durante l'uso (Figg. 21 e 22).

> Nel montaggio degli utensili, bisogna prestare attenzione che il bloccaggio agisca sul corpo e che i taglienti non siano in contatto con altri taglienti (Fig. 23) o con elementi di bloccaggio (Fig. 24).

> Viti e dadi di bloccaggio devono essere serrati usando utensili appropriati e alla coppia di serraggio prevista dal costruttore.

> Prolunghe per attrezzi o serraggio con colpi di martello non sono permessi (Fig. 25).

> Non utilizzare bussole di riduzione del foro diverse da quelle previste dal costruttore.

> Le superfici di bloccaggio devono essere esenti da sporco, grasso, olio o acqua (Fig. 26). La resina deve essere rimossa dal corpo di utensili in leghe leggere solo con solventi che non intacchino l'alluminio e non pregiudichino le caratteristiche meccaniche di questi materiali. Pulire accuratamente l'utensile ad ogni sostituzione dei taglienti.

> Gli utensili composti devono essere riparati da personale competente, addestrato ed esperto, che ha conoscenza dei requisiti progettuali e conosca il livello di sicurezza che deve essere raggiunto.

> La riparazione degli utensili è consentita solo in accordo con le istruzioni del fabbricante. Occorre prestare particolare attenzione ai seguenti punti:
- La riparazione dovrà includere l'uso di parti di ricambio in accordo con le specifiche delle parti originali fornite dal costruttore.
- Mantenere le tolleranze che assicurano un bloccaggio corretto.

> Dopo qualsiasi processo di manutenzione, un utensile marcato "**MAN**" deve continuare a rispettare i requisiti della norma relativi agli utensili per avanzamento manuale.

> Indossare guanti migliora la presa e riduce ulteriormente il rischio di lesioni.

> Per evitare lesioni, gli utensili devono essere maneggiati con cautela e utilizzando dispositivi come ganci di trasporto, maniglie specifiche, telai, contenitori, carrelli, ecc.).

> Tools must be used and handled by experienced and trained personnel, in possesion of the necessary understanding.

> The maximum speed marked on the tool shall not be exceeded. Where stated, the speed range must be respected.

> Tools and tool bodies must be locked correctly, so they do not loosen during operation (Fig. 21 - 22).

> When mounting tools, insure that locking reacts against the body and the cutting edges are not in contact with each other (Fig. 23) or with any other locking elements (Fig. 24).

> Screws and nuts shall be tightened using the appropriate spanners etc. and to the torque value provided by the manufacturer.

> Spanner extensions or tightening using hammer blows is strictly forbidden (see Fig. 25).

> Do not use reduction rings with a bore different to those specified by the constructor.

> Clamping surfaces must be free of dirt, grease, oil and water (Fig. 26). Resins must be removed from tools with light alloy bodies using cleaners that do not damage the aluminium and compromise the materials mechanical features. Accurately clean the tool after every knife change.

> Tools compiling a set, must be repaired by experienced and fully trained personnel, with the knowledge of the design requirements and security levels to be reached .

> Repairing tools is allowed only in accordance to the tool manufacturer's instructions. Particular attention is drawn to the following:
- Repair shall therefore include e. g. use of parts which are in accordance with the specification of the original parts provided by the manufacturer.
- Tolerances which ensure correct locking shall be maintained.

> After any type of maintenence work, a tool marked "**MAN**" must continue to respect the requirements imposed by the norm relative to tools with manual feed.

> Wearing glooves increases grip and reduces the risk of injury.

> To avoid injury, tools must be handled with care using special appliances so as to transport them without incuring injury to the user.

Tavola per il calcolo della velocità periferica, del diametro e del numero di giri di un utensile

Technical diagram to obtain tip speed, diameter and RPM of a cutting tool

Valore della velocità periferica (V= m/s): Recommended tip speed (V= m/s):								
Legno tenero Softwood	HSS	50-80 m/s	Legno duro Hardwood	HSS	40-60 m/s	Truciolare Chipboard	HM	60-80 m/s	Medium Density MDF	HM	30-50 m/s
	HM	60-90 m/s		HM	50-80 m/s						

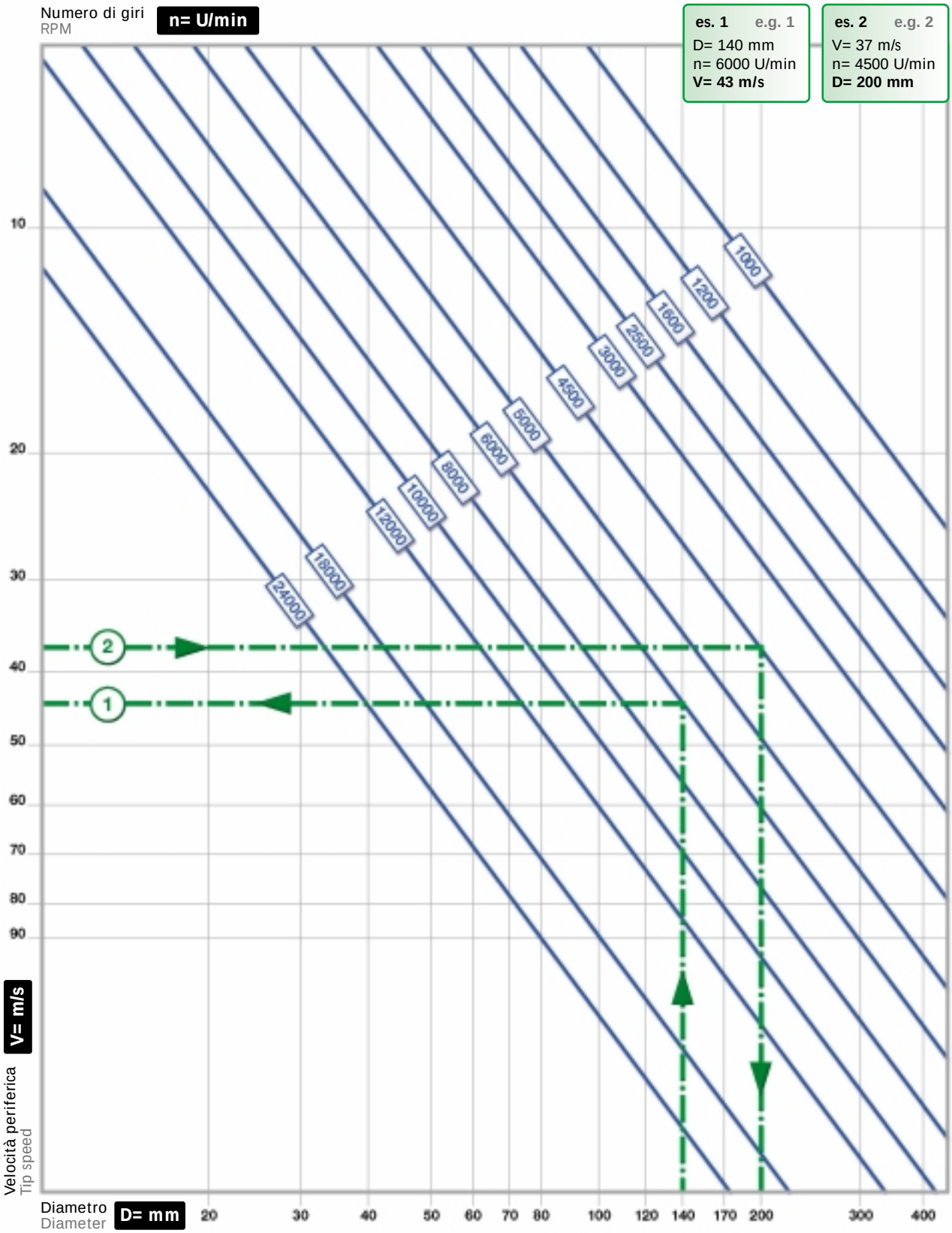
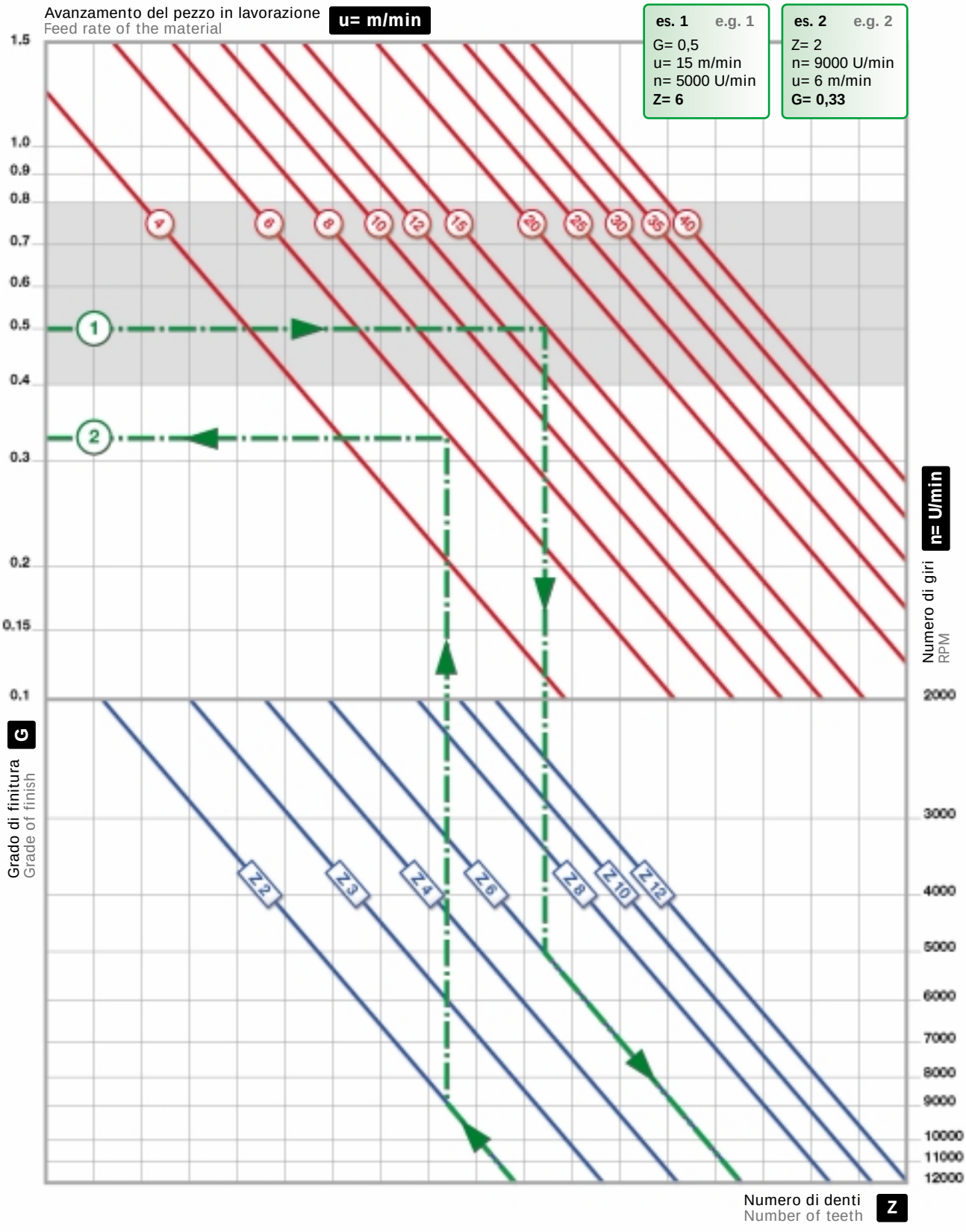


Tavola per il calcolo del numero di denti, della velocità di rotazione, della velocità di avanzamento e del grado di finitura ideale di un utensile

Technical diagram to obtain number of teeth, feed rate, RPM and grade of finish of a cutting tool

Grado di finitura (G): Grade of finish (G):	Tracce di bruciatura Burning	Finitura su legno tenero Finish on softwood	Finitura su legno duro Finish on hardwood	Sgrossatura Rough finish
	0,10-0,40	0,40-0,60	0,60-0,80	0,80-1,50



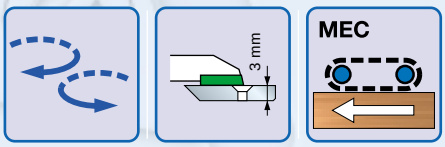
TW01M

Testa portacoltelli per giunzioni - profilo intercambiabile
Finger joint cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TW01M AB3	136	55	35 (50)	4	

> Diametro della testa con i coltelli: 150 mm.
> Cutterhead diameter with knives is 150 mm.

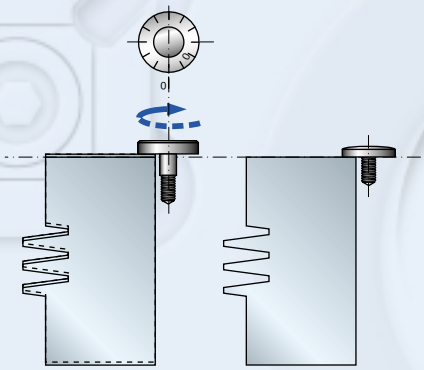
Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CN13M AA9	Cuneo / Wedge	51 x 23,6 x 8
VT03M CC9	Vite / Screw	M10 x 18
VT08M AC9	Vite / Screw	M5 x 8
VT08M AE9	Vite / Screw	M5 x 7 x 16
2602M CE9	Vite / Screw	M4 x 6
CB03M EA9	Chiave / Allen key	5 x 110



> Vantaggi:
Sullo stesso corpo possibilità di montaggio di differenti profili di giunzione (vedi pagina seguente). Possibilità di regolazione del gioco di accoppiamento (giunzione forzata, normale e lasca).

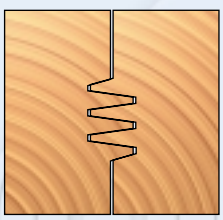
> Advantages of our tool:
On the same tool body, different jointing profiles can be fitted (see following page).
It is possible to adjust the type of joint (tight, regular, loose) by means of a thumb screw mechanism.

Coltelli Riaffilabili
Resharpenable Knives

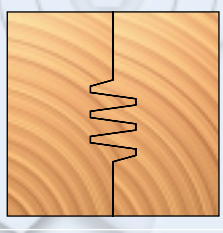


> Utensili per la lavorazione lungo e traverso vena di pezzi corti.
> Tools for working long and cross grain on short workpieces.

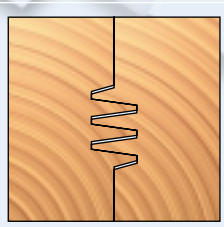
> Esempi di regolazione
> Adjustment examples



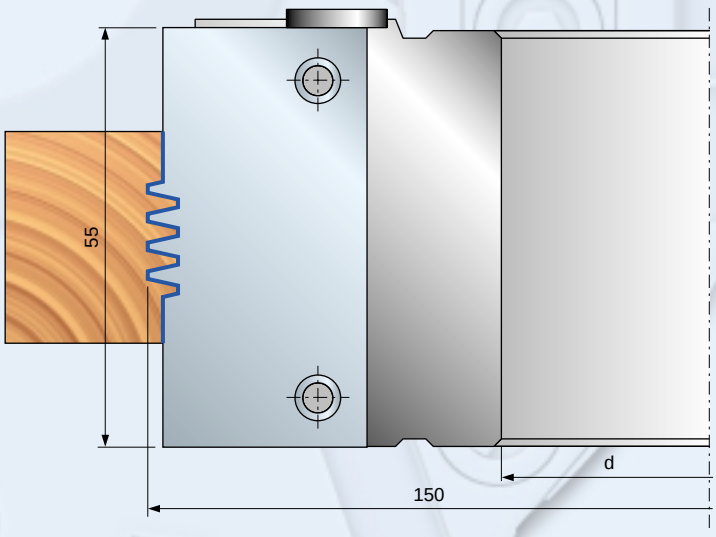
> Giunzione forzata
> Tight joint



> Giunzione normale
> Regular joint



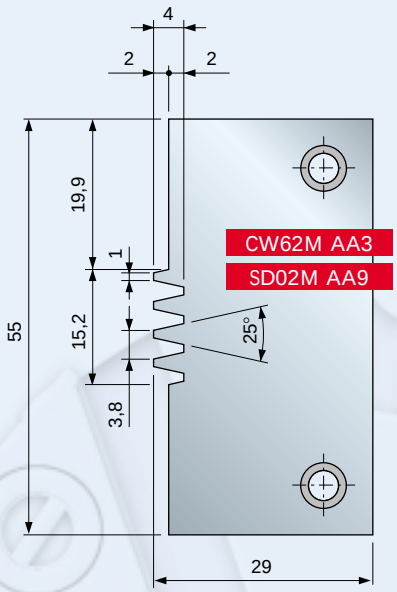
> Giunzione lasca
> Loose joint

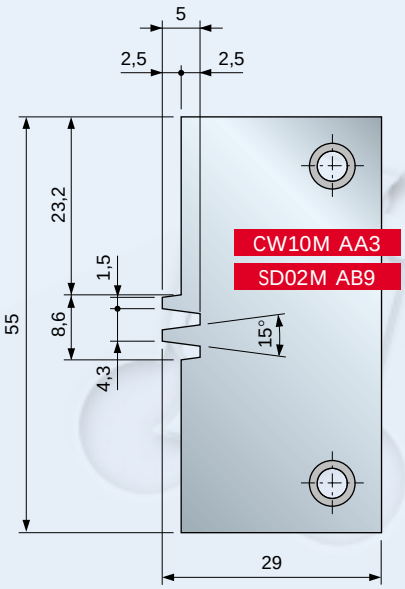


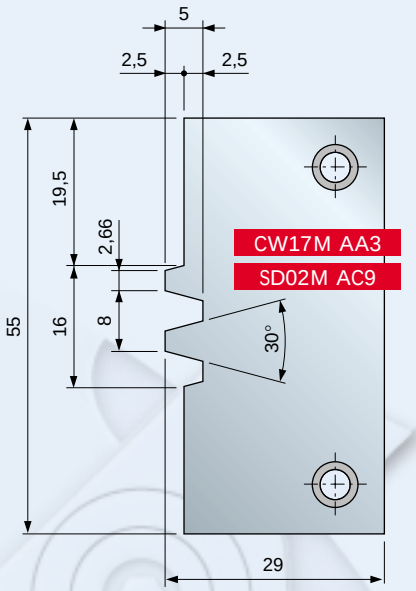
> L'articolo non comprende i coltelli e i supporti
> The item does not include knives and support plates

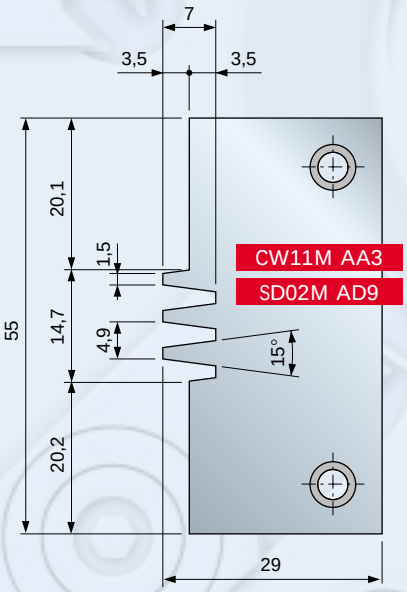
Esempio di ordinazione: TW01M AB3 Ø136x55x35 Z4 1 pezzo / piece
Order example: CW10M AA3 55x29x3 4 pezzi / pieces
SD02M AB9 55x27x5,5 4 pezzi / pieces

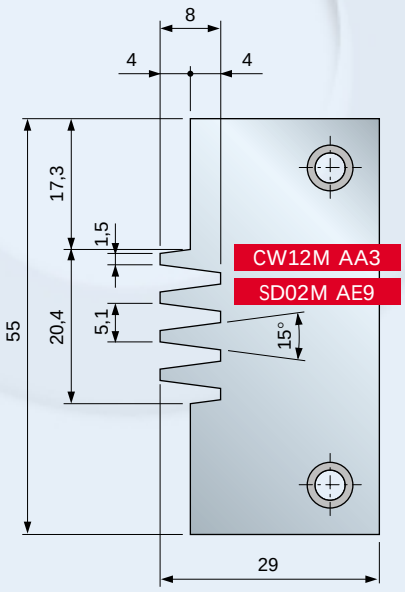
✪ La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible





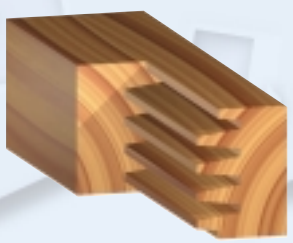






Coltelli di ricambio Spare knives	Dimensioni Dimensions
CW62M AA3	55 x 29 x 3
CW10M AA3	55 x 29 x 3
CW17M AA3	55 x 29 x 3
CW11M AA3	55 x 29 x 3
CW12M AA3	55 x 29 x 3

Supporti di ricambio Spare support plates	Dimensioni Dimensions
SD02M AA9	55 x 27 x 5,5
SD02M AB9	55 x 27 x 5,5
SD02M AC9	55 x 27 x 5,5
SD02M AD9	55 x 27 x 5,5
SD02M AE9	55 x 27 x 5,5



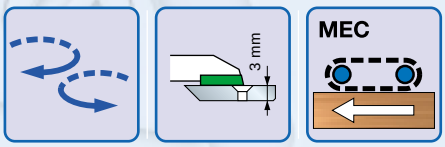
La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

TW24M

Gruppo teste portacoltelli per giunzioni
Finger joint cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TW24M AB3	150		35 (50)	2+2	
TW24M AC3	150		40 (50)	2+2	

Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CW24MA AA3	Coltello per testa "A" / Knife for cutterhead "A"	45 x 30 x 3
CW24MB AA3	Coltello per testa "B" / Knife for cutterhead "B"	45 x 30 x 3
VT08M AE9	Vite / Screw	M5 x 7 x 16
VT08M AG9	Vite / Screw	M6 x 7 x 18
CN11M B410	Cuneo / Wedge	41 x 17 x 8
VT03M CC9	Vite / Screw	M10 x 18
CB03M EA9	Chiave / Allen key	5 x 110
2619M BA9	Chiave esag. a "L" / Allen key	2



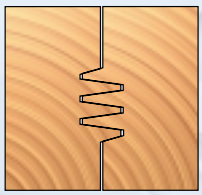
Coltelli Riaffilabili
Resharpenable Knives
HM freud

> Utensili per la lavorazione lungo e traverso vena di pezzi lunghi e corti.
> Tools for working long and cross grain on long and short workpieces.

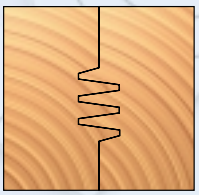
> Testa fornita di coltelli in HM riaffilabili.
Regolazione per spessore legno: 40÷70 mm.
> Cutterhead supplied with resharpenable TC knives.
Adjustable for wood thicknesses between 40 and 70 mm.

> ESEMPI DI REGOLAZIONE / ADJUSTMENT EXAMPLES

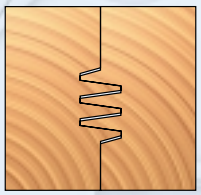
> Giunzione forzata
> Tight joint

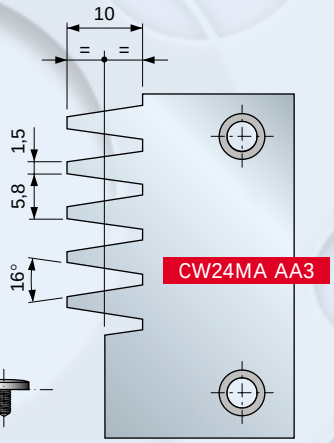


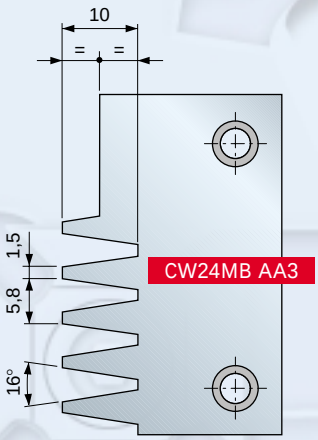
> Giunzione normale
> Regular joint

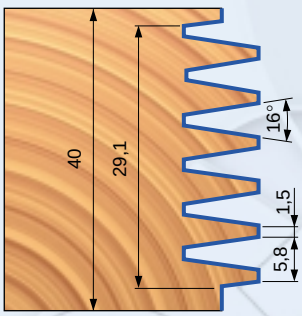


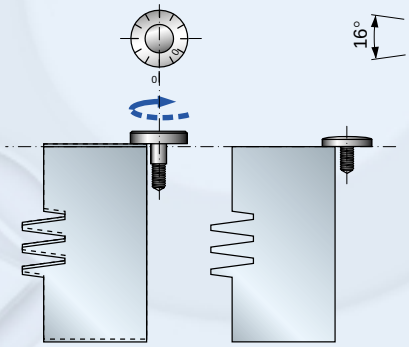
> Giunzione lasca
> Loose joint

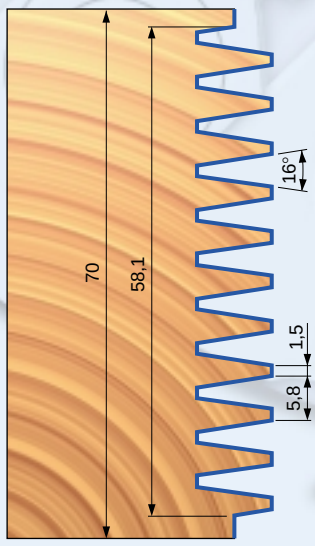


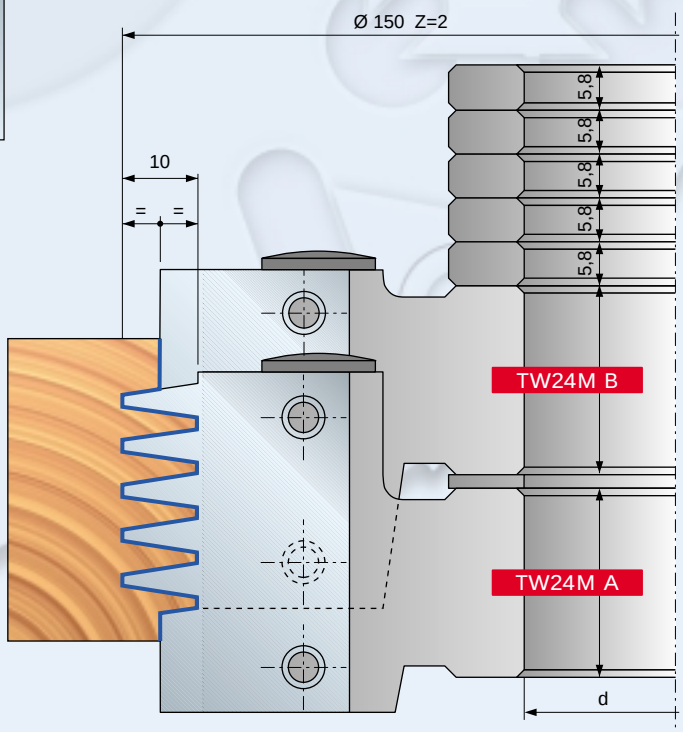










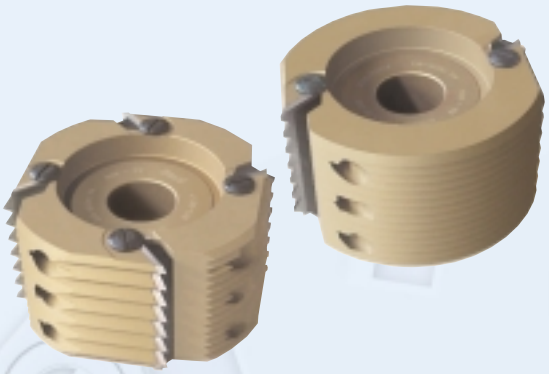


* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

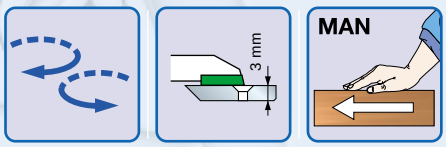
TW23M Z = 2
TW20M Z = 4

TESTE PORTACOLTELLI PER GIUNZIONI
FINGER JOINT CUTTERHEADS



COD.	D mm	B mm	d* mm	Z	R
(1)TW23M BF3	140	70	35 (50)	2	
(2)TW20M BF3	140	70	35 (50)	4	

COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
CW20MA BA3	COLTELLO / KNIFE	70 x 25 x 3
CW20MB BA3	COLTELLO / KNIFE	70 x 25 x 3
CN13M AF9	CUNEO / WEDGE	66 x 19 x 8
VT03M CC9	VITE / SCREW	M10 x 18
VT08M AE9	VITE / SCREW	M5 x 7 x 16
CB03M EA9	CHIAVE / ALLEN KEY	5 x 110



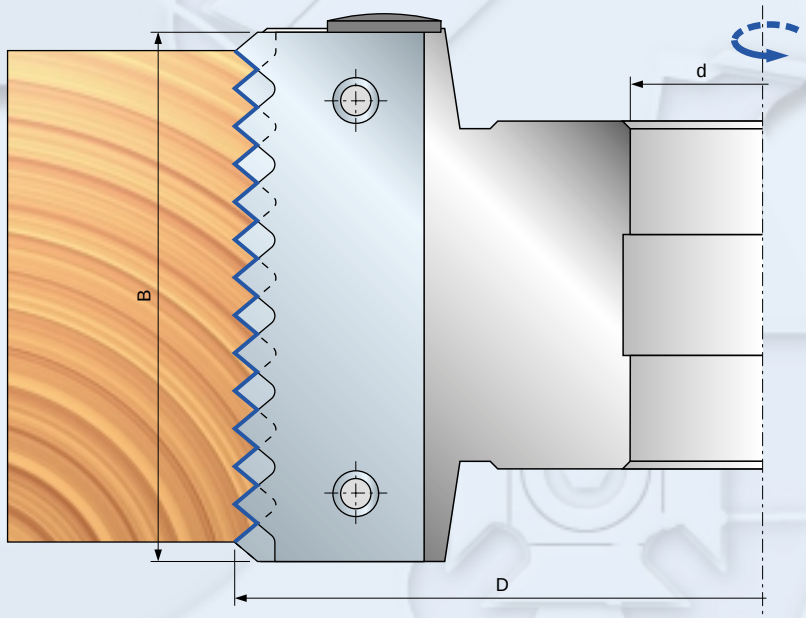
> ATTENZIONE: sulle teste sono montati due tipi di coltelli diversi: CW20MA e CW20MB. Corpo in lega leggera (AVIONAL). Per la pulizia non utilizzare prodotti contenenti soda caustica.

> PLEASE NOTE: two different types of knives are fitted on the cutterheads: CW20MA and CW20MB. Light alloy body (Avional). For cleaning do not use products containing caustic soda.

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

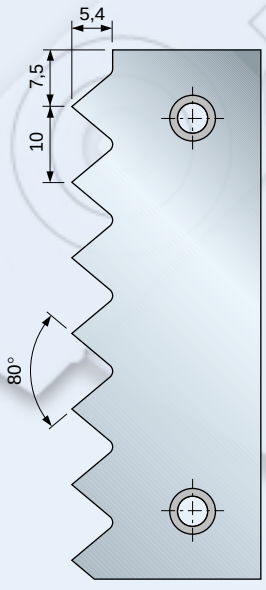
• EN 847-1 •
(1) R&S - SV/R 157/156
(2) R&S - SV/R 144/141



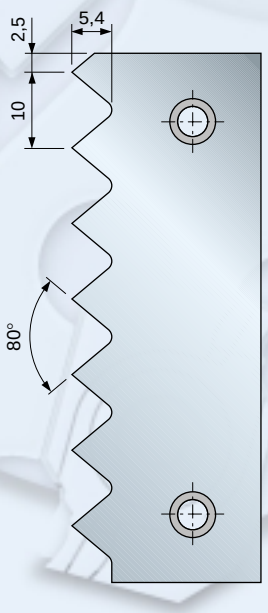
> Vengono forniti in dotazione i coltelli ed un anello distanziale S= 2,5 mm per ottenere una perfetta giunzione mantenendo la programmazione iniziale inalterata.
Lo spessore massimo ottenibile è di 62,5 mm.

> The tool is supplied with a spacing ring S= 2,5 mm so that a perfect joint can be obtained and the initial zero-point programming maintained.
The max. thickness possible is 62,5 mm.

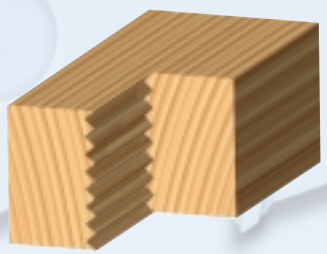
CW20MA BA3

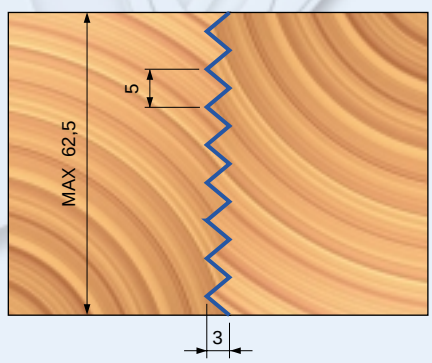


CW20MB BA3



> Utensili per la lavorazione lungo vena di pezzi corti.
> Tools for working long grain on short workpieces.

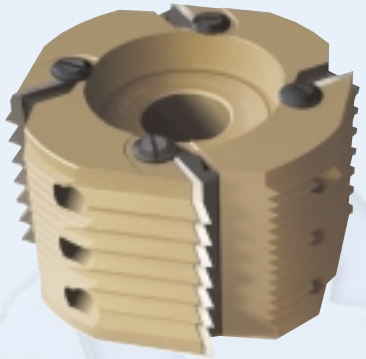




* LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

TW22M

Testa portacoltelli per giunzioni
Finger joint cutterhead

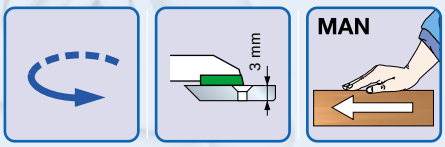


Cod.	D mm	B mm	d* mm	Z	R
TW22M BB3	140	80	35 (50)	4	

Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CW22MA AA3	Coltello / Knife	80 x 29 x 3
CW22MB AA3	Coltello / Knife	80 x 29 x 3
CN13M AG9	Cuneo / Wedge	76 x 24 x 8
VT03M CC9	Vite / Screw	M10 x 18
VT08M AE9	Vite / Screw	M5 x 7 x 16
CB03M EA9	Chiave / Allen key	5 x 110

> Corpo in lega leggera (Avional). Per la pulizia non utilizzare prodotti contenenti soda caustica.
Sulla testa vengono montati due tipi di coltelli:
2 CW22MA AA3 + 2 CW22MB AA3.

> Light alloy body (Avional). For cleaning do not use products containing caustic soda.
PLEASE NOTE: two different types of knives are fitted on the cutterheads: CW22MA AA3 and CW22MB AA3.



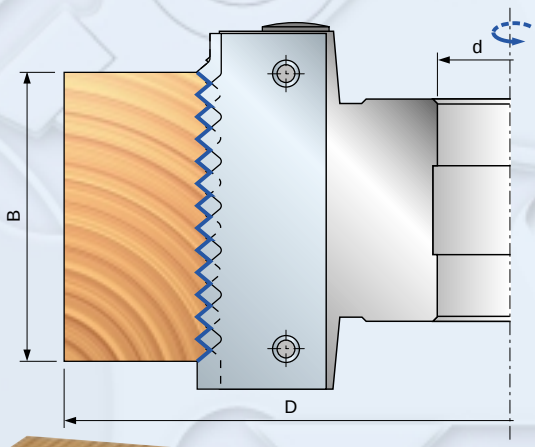
Coltelli Riaffilabili
Resharpenable Knives

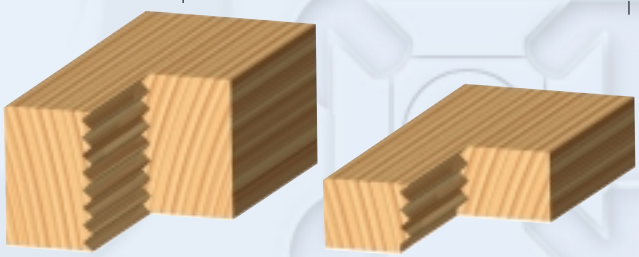
HM freud

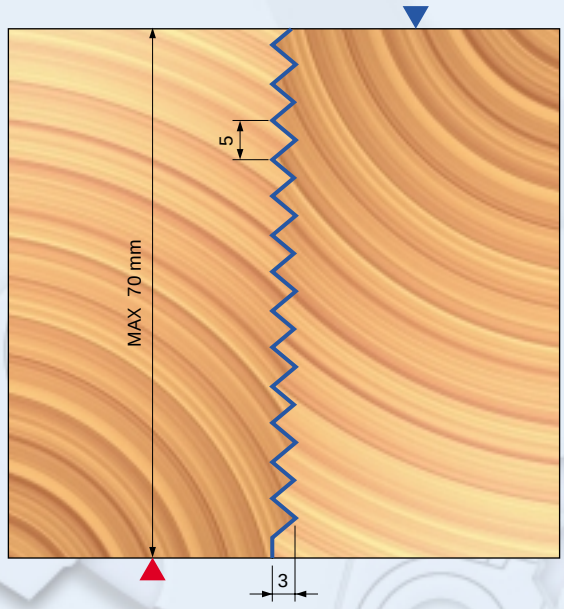
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

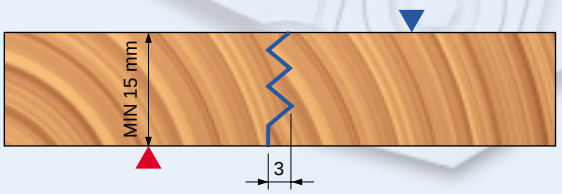
• EN 847-1 •
R&S - SV/R 156/155

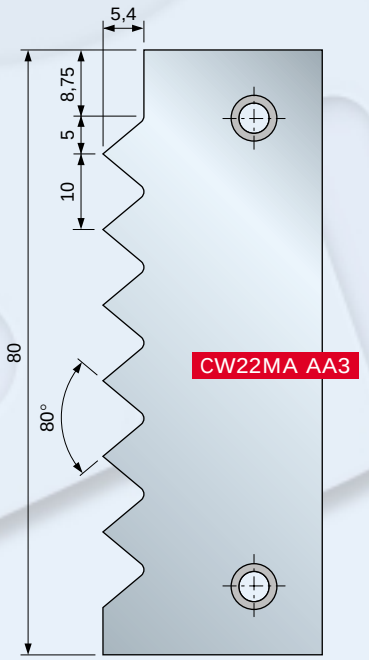
> Utensile per la lavorazione lungo vena di pezzi corti.
> Tool for working long grain on short workpieces.

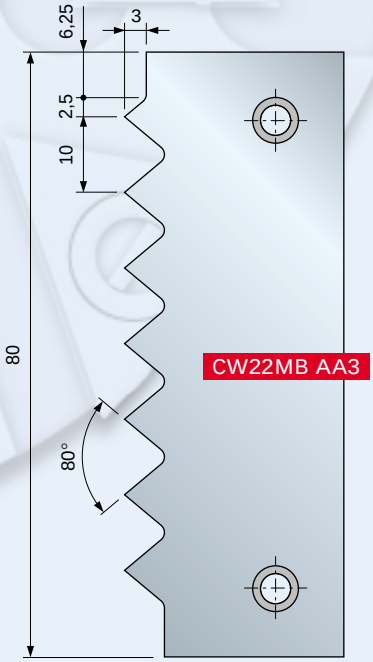












> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

ESEMPIO DI APPLICAZIONE
APPLICATION EXAMPLE

FIG. **A:** PROFILO / PROFILE

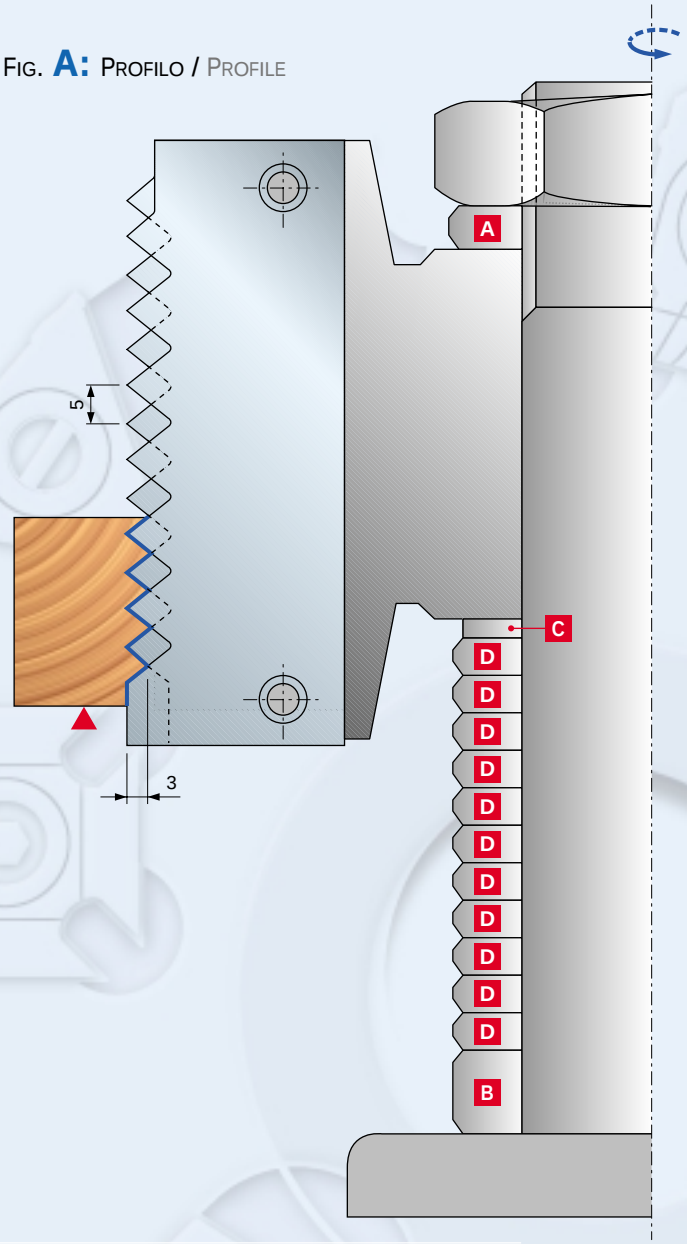
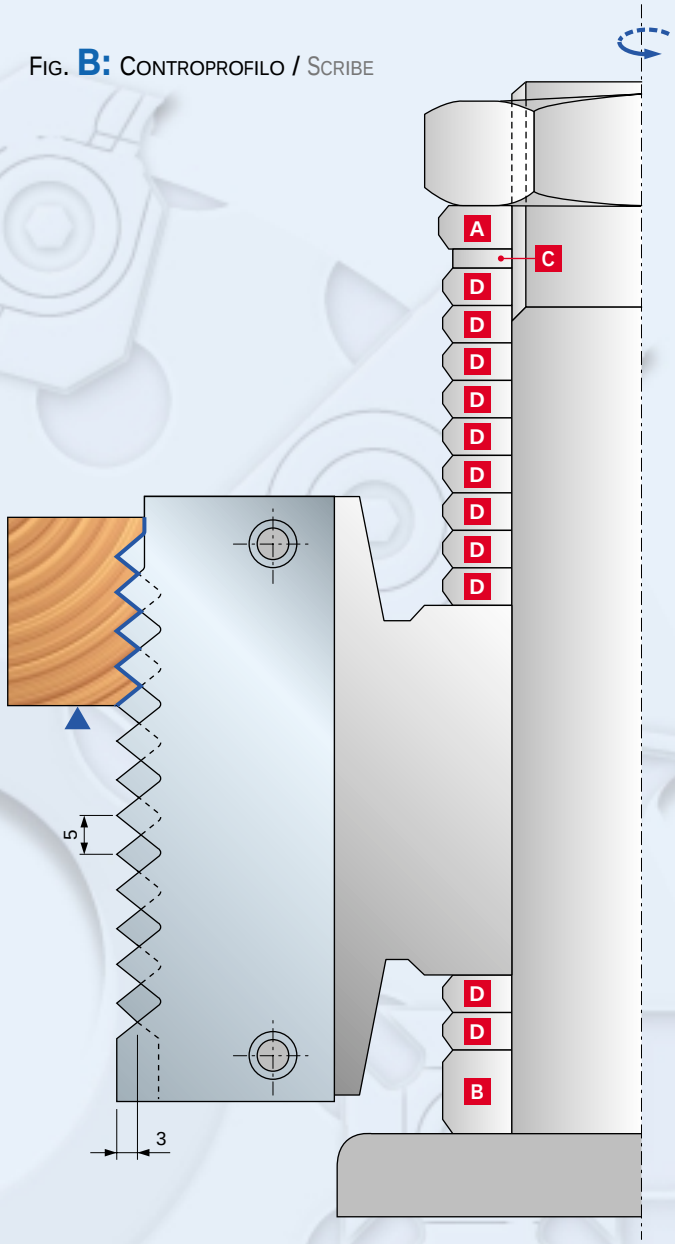


FIG. **B:** CONTROPROFILO / SCRIBE



> **1:** Eseguire il profilo inserendo sotto l'utensile l'anello "**C**" (in dotazione) e tutti gli anelli "**D**" (AN04M) come indicato nella figura **A**.
2: Per eseguire il controprofilo togliere l'anello "**C**" e gli anelli "**D**" (tanti quanti sono i dentelli non interessati alla lavorazione), inserendoli nella parte superiore dell'utensile, come indicato nella figura **B**.
Nell'esempio raffigurato i dentelli non interessati sono 9 (fig. **A**): bisognerà quindi togliere n. 9 anelli "**D**", oltre all'anello "**C**", ed inserirli sopra l'utensile (fig. **B**).

- Anelli "**A-B**": in dotazione alla macchina.
- Anello "**C**": in dotazione all'utensile, spessore 2,5 mm (equivalente a 1/2 passo del dentello per il posizionamento esatto dell'utensile nell'esecuzione del controprofilo).
- Anelli "**D**": spessore 5 mm (equivalente al passo del dentello), **forniti a richiesta**. Codice: **AN04M BB9**.

> **1:** To obtain the profile, insert all spacers "**C**" and "**D**" below the tool as indicated in figure **A**.
2: To achieve the counterprofile remove spacer "**C**" and as many spacers "**D**" as the number of teeth not in use, placing them above the tool as indicated in figure **B**.
In the example above there are 9 teeth not used (fig. **A**), so 9 spacers "**D**" will be removed together with spacer "**C**" and placed above the tool (fig. **B**).

- Spacers "**A-B**": supplied with machine.
- Spacer "**C**": 2,5 mm thickness, equal to 1/2 the tooth's pitch, for the exact positioning of the tool, in order to carry out the counter profile.
- Spacers "**D**": 5 mm thickness, equal to the tooth's pitch (**supplied on request; cod: AN04M BB9**).

AN04M

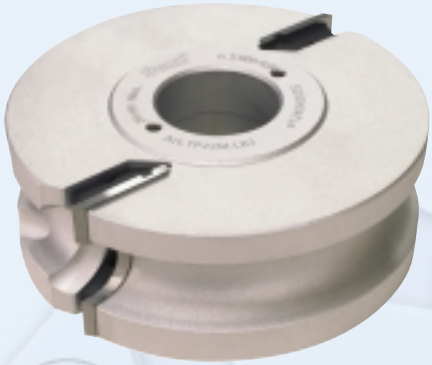
SET DI ANELLI OPZIONALE
OPTIONAL SET OF SPACERS

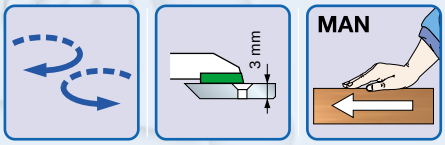
> Serie di 11 anelli distanziali con spessore 5 mm.
> Series of 11 spacers, each 5 mm thick.

Cod.	D mm	B mm	d mm	Z	R
AN04M BB9	55	5	35		

TP22M

Testa portacoltelli multiraggio
Multi radius cutterhead





Coltelli Riaffilabili
Resharpenable Knives

HM freud

> Utensili collaudati secondo la normativa
> Tools tested according to the norm

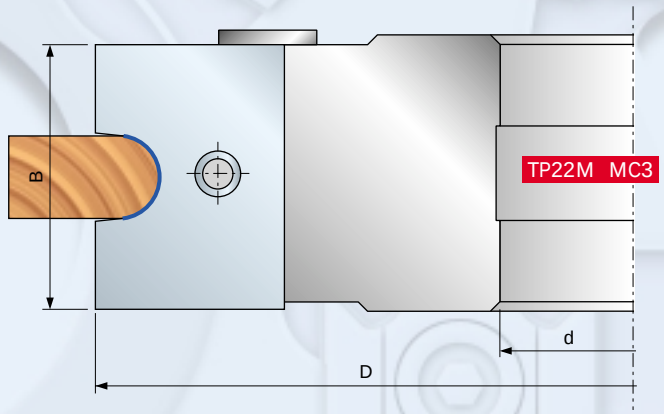
• EN 847-1 •
(2) R&S - SV/R 150/149

Cod.	D mm	B mm	d* mm	Z	R
(1) TP22M LB3	124	45	35 (40)	2	8-9-10-11
(2) TP22M MC3	142	35	40 (50)	2	5 - 5,5 - 6

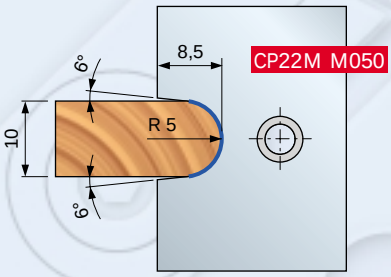
	Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions	
LB3	CN13M CH9A	Cuneo / Wedge	43 x 28 x 8,5	
	CP22M L080	Coltello / Knife	45 x 29 x 3	R8
	CP22M L090	Coltello / Knife	45 x 29 x 3	R9
	CP22M L100	Coltello / Knife	45 x 29 x 3	R10
	CP22M L110	Coltello / Knife	45 x 29 x 3	R11
MC3	CN13M CI9A	Cuneo / Wedge	33 x 23 x 8,5	
	CP22M M050	Coltello / Knife	35 x 24 x 3	R5
	CP22M M055	Coltello / Knife	35 x 24 x 3	R5,5
	CP22M M060	Coltello / Knife	35 x 24 x 3	R6
	VT08M AE9	Vite / Screw	M5 x 7 x 16	
	VT03M CC9	Vite / Screw	M10 x 18	
	CB03M EA9	Chiave / Allen key	5 x 110	

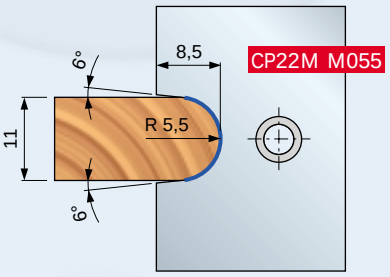
> Corpo in lega leggera (Avional). Per la pulizia non utilizzare prodotti contenenti soda caustica. L'articolo è fornito di coltelli.

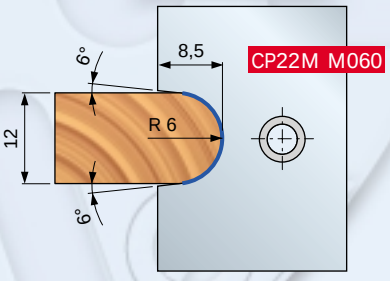
> Light alloy body (Avional). For cleaning do not use products containing caustic soda. This item comes complete with knives in a practical carrying case.



Coltelli per / Knives for TP22M MC3







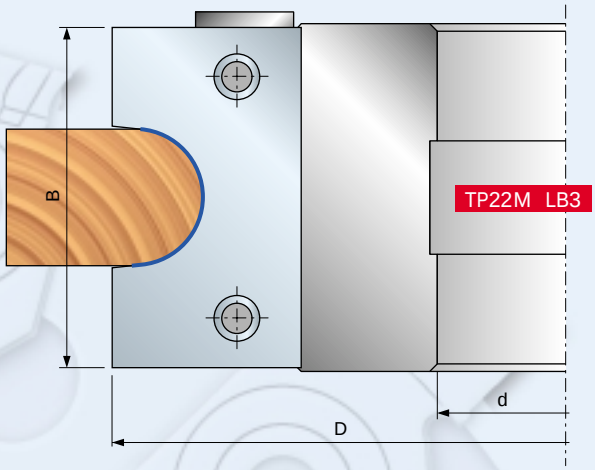
> Sistema Performance < > Performance System < patented

✱ La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

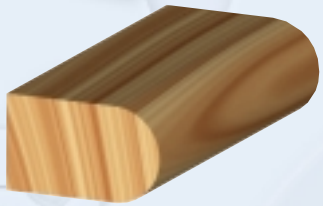
TESTA PORTACOLTELLI MULTIRAGGIO
MULTI RADIUS CUTTERHEAD

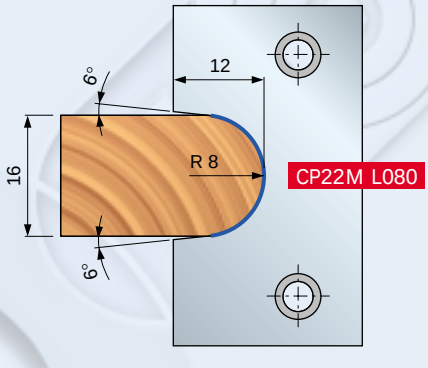
> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

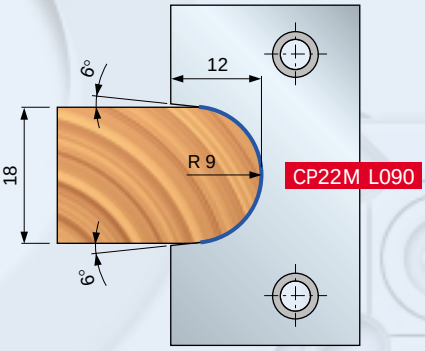
• EN 847-1 •
(1) R&S - SV/R 149/148

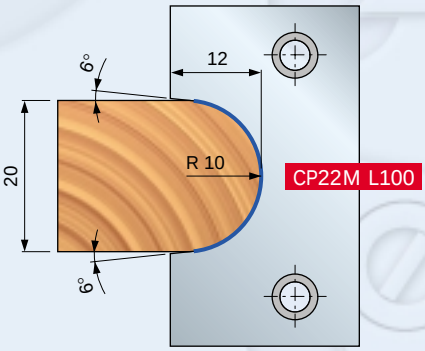


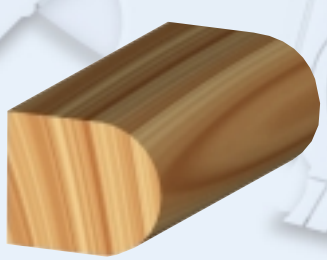
COLTELLI PER / KNIVES FOR **TP22M LB3**

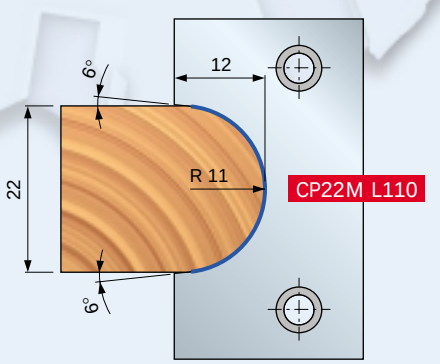








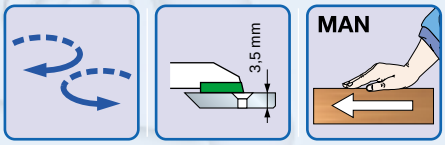




TP23M

Testa portacoltelli multiraggio
Multi radius cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP23M AB3	120	12	35 (50)	2	6 - 8 - 10



Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CP23M A060	Coltello / Knife	12 x 24 x 3,5 R6
CP23M A080	Coltello / Knife	16 x 24 x 3,5 R8
CP23M A100	Coltello / Knife	20 x 24 x 3,5 R10
2622M CB9	Vite / Screw	M6 x 10
VT05M AA9	Vite / Screw	M5 x 8
VT18M AR9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2
CB03M BA9	Chiave / Allen key	4 x 110

> Corpo in lega leggera (Avional).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo è fornito di coltelli.

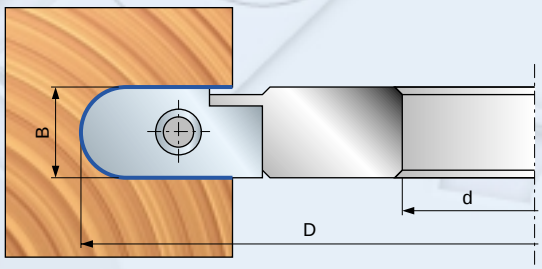
> Light alloy body (Avional).
For cleaning do not use products containing caustic soda.
This item comes complete with knives in a practical carrying case.

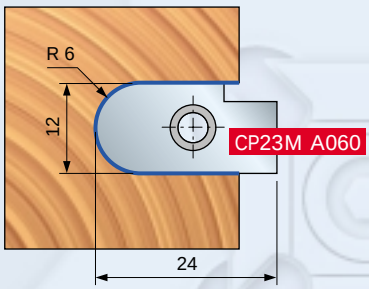
Coltelli Riaffilabili
Resharpenable Knives

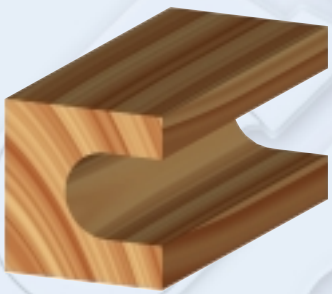
HM freud

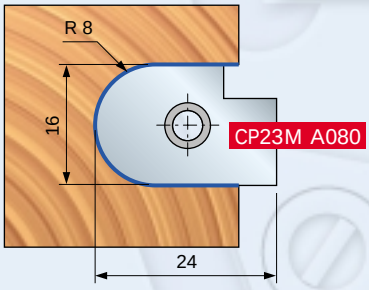
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

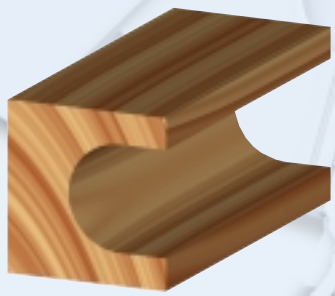
• EN 847-1 •
R&S - SV/R 151/150





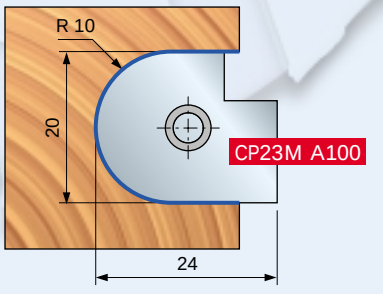






> Questo profilo è utilizzabile solamente con avanzamento meccanico.

> This profile is usable with automatic feed only.



> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

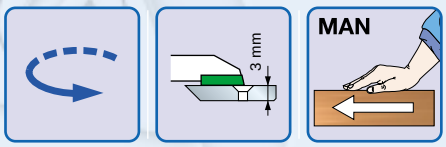
* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

TP31M

TESTA PORTACOLTELLI MULTIRAGGIO
MULTI RADIUS CUTTERHEAD

COD.	D mm	B mm	d* mm	Z	R
TP31M AB3	150	24	35 (50)	2	8-10

COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
CP31M A080	COLTELLO / KNIFE	24 x 30 x 3 R8
CP31M A100	COLTELLO / KNIFE	24 x 30 x 3 R10
CN11M B180	CUNEO / WEDGE	18 x 17 x 8
VT03M CC9	VITE / SCREW	M10 x 18
VT18M AR9	PIASTRA DI RISCONTRO / POSITIONING PLATE	20 x 11,6 x 2,2
VT05M AA9	VITE / SCREW	M5 x 8
CB03M EA9	CHIAVE / ALLEN KEY	5 x 110



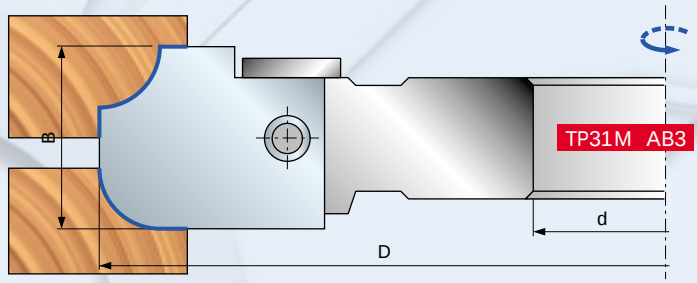
> Corpo in lega leggera (AVIONAL).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo è fornito di coltelli.

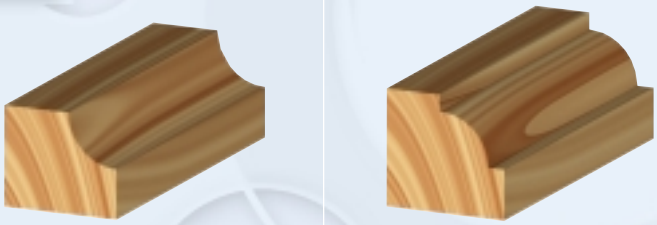
> Light alloy body (AVIONAL).
For cleaning do not use products containing caustic soda.
This item comes complete with knives in a practical carrying case.

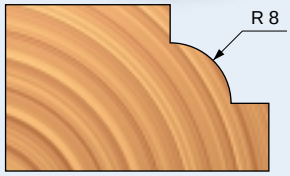
COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

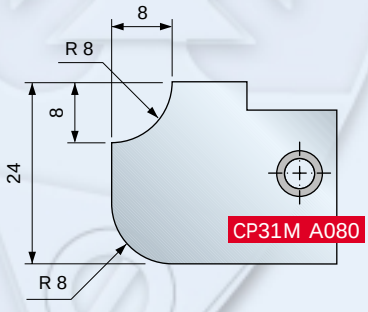
> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

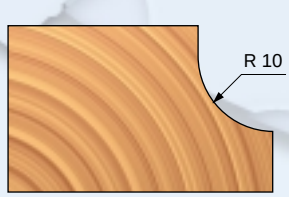
• EN 847-1 •
R&S - SV/R 152/151

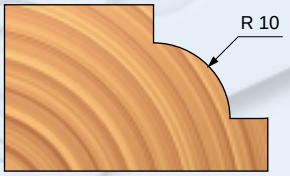


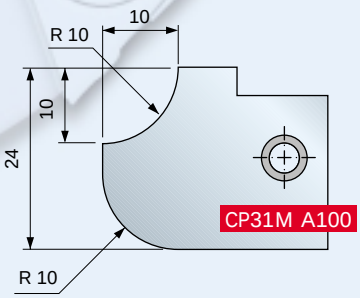












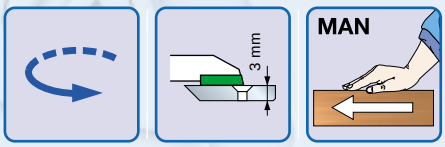
LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

TP31M

Testa portacoltelli multiraggio
Multi radius cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP31M EB3	150	34	35 (50)	2	10 - 12

Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CP31M B100	Coltello / Knife	34 x 34 x 3 R10
CP31M B120	Coltello / Knife	34 x 34 x 3 R12
CN13M CF9A	Cuneo / Wedge	32 x 32 x 8,5
VT03M CC9	Vite / Screw	M10 x 18
VT18M AR9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2
VT05M AA9	Vite / Screw	M5 x 8
CB03M EA9	Chiave / Allen key	5 x 110



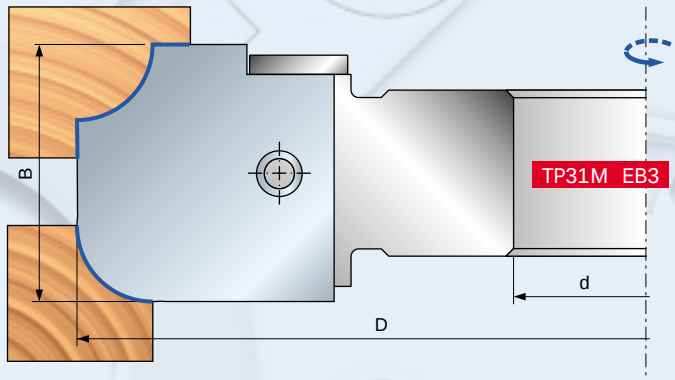
> Corpo in lega leggera (Avional).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo è fornito di coltelli.

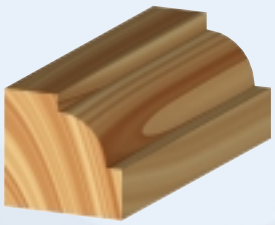
> Light alloy body (Avional).
For cleaning do not use products containing caustic soda.
This item comes complete with knives in a practical carrying case.

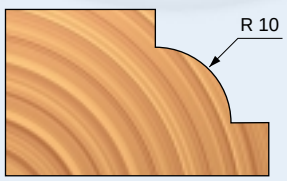
Coltelli Riaffilabili
Resharpenable Knives
HM freud

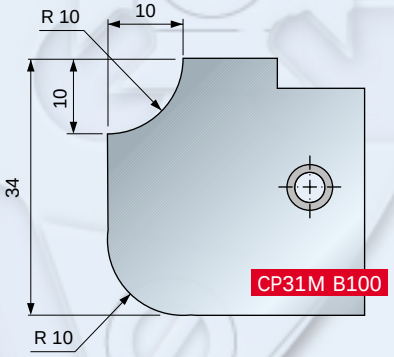
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

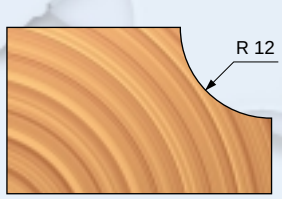
• EN 847-1 •
R&S - SV/R 167/166

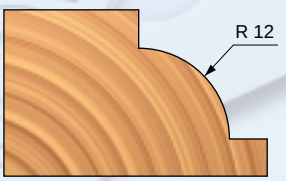


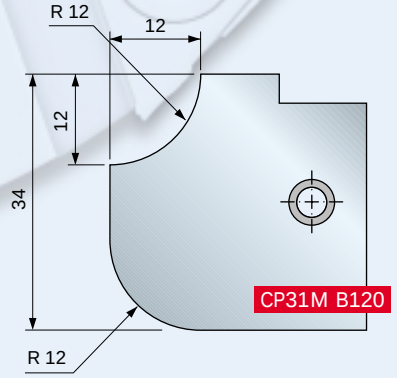












> Sistema Performance < > Performance System < Patented <

* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

TP31M

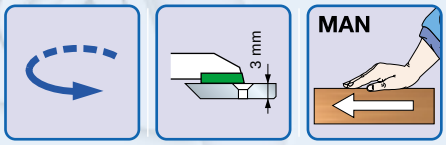
Testa portacoltelli multiraggio
Multi radius cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP31M FB3	150	34	35 (50)	2	15

Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CP31M B150	Coltello / Knife	34 x 34 x 3 R15
CN13M CF9A	Cuneo / Wedge	32 x 32 x 8,5
VT03M CC9	Vite / Screw	M10 x 18
VT18M AR9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2
VT05M AA9	Vite / Screw	M5 x 8
CB03M EA9	Chiave / Allen key	5 x 110

> Corpo in lega leggera (Avional).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo è fornito di coltelli.

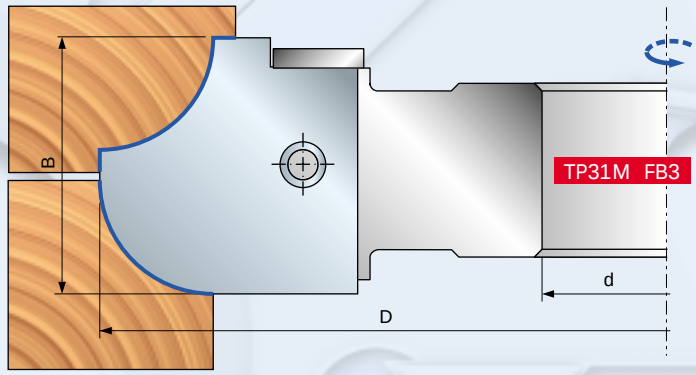
> Light alloy body (Avional).
For cleaning do not use products containing caustic soda.
This item comes complete with knives in a practical carrying case.

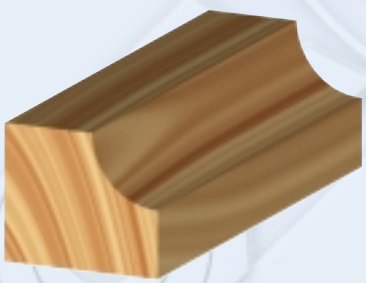


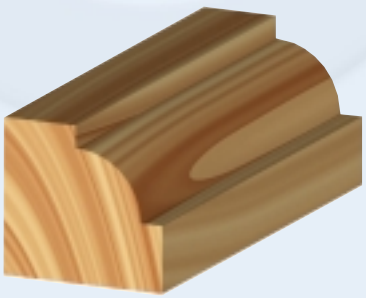
Coltelli Riaffilabili
Resharpenable Knives
HM freud

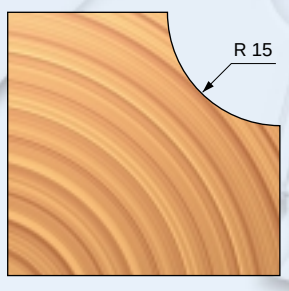
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

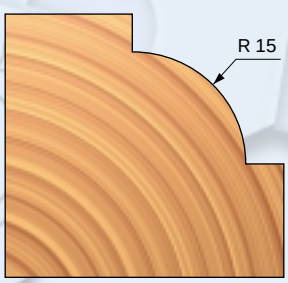
• EN 847-1 •
R&S - SV/R 168/167

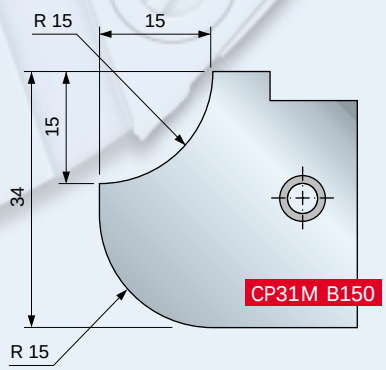












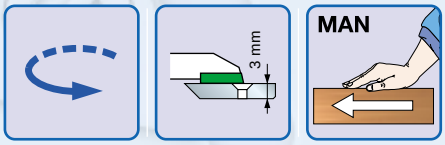
La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

TP31M

Testa portacoltelli multiraggio
Multi radius cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP31M GB3	160	40	35 (50)	2	8 - 10 - 12

Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions	
CP31M C080	Coltello / Knife	40 x 40 x 3	R8
CP31M C100	Coltello / Knife	40 x 40 x 3	R10
CP31M C120	Coltello / Knife	40 x 40 x 3	R12
CN13M CG9A	Cuneo / Wedge	38 x 37 x 8,5	
VT03M CC9	Vite / Screw	M10 x 18	
VT18M AR9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2	
CB03M EA9	Chiave / Allen key	5 x 110	



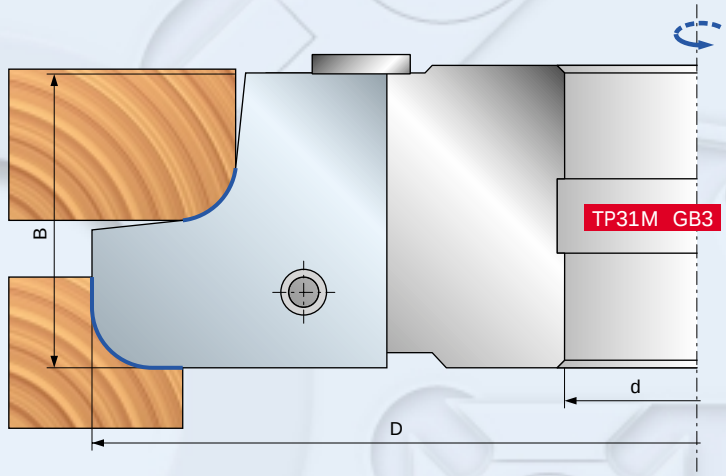
> Corpo in lega leggera (Avional).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo è fornito di coltelli.

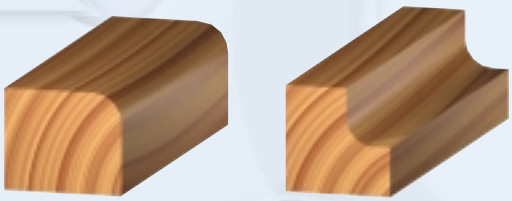
> Light alloy body (Avional).
For cleaning do not use products containing caustic soda.
This item comes complete with knives in a practical carrying case.

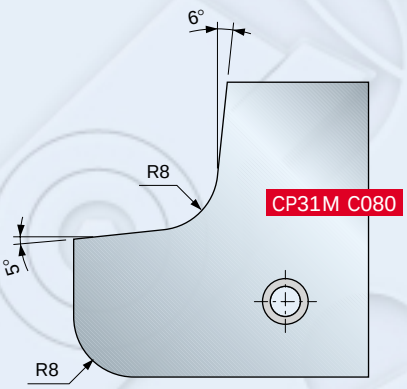
Coltelli Riaffilabili
Resharpenable Knives
HM freud

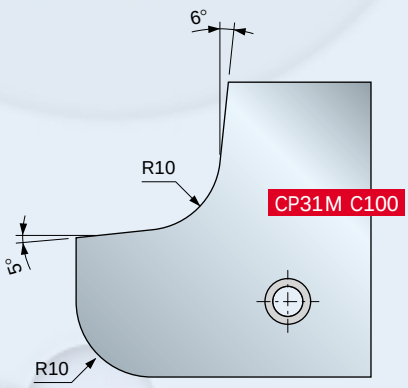
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

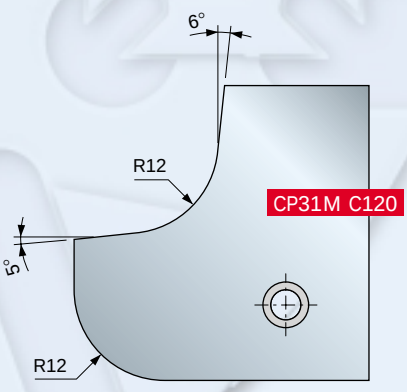
• EN 847-1 •
R&S - SV/R 153/152

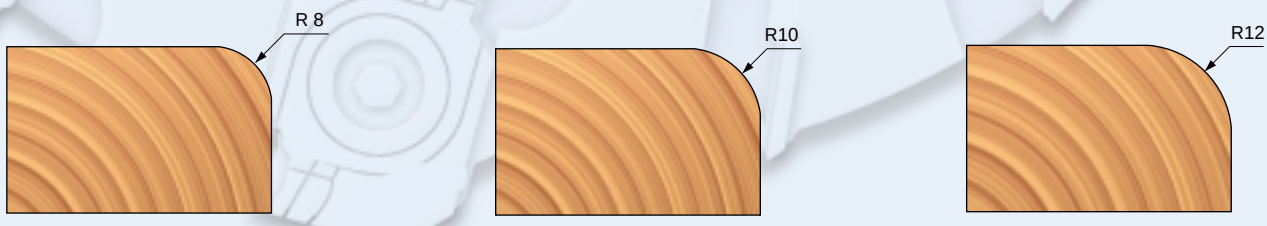












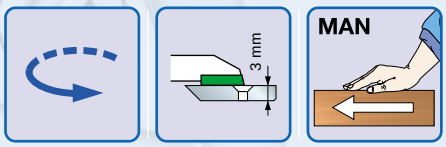
✱ La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

> Sistema Performance < > Performance System Patented <

TP31M

TESTA PORTACOLTELLI MULTIRAGGIO
MULTI RADIUS CUTTERHEAD

COD.	D mm	B mm	d* mm	Z	R
TP31M HB3	160	40	35 (50)	2	12 - 15 - 17,5



COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
CP31M C120	COLTELLO / KNIFE	40 x 40 x 3 R12
CP31M C150	COLTELLO / KNIFE	40 x 40 x 3 R15
CP31M C175	COLTELLO / KNIFE	40 x 40 x 3 R17,5
CN13M CG9A	CUNEO / WEDGE	38 x 37 x 8,5
VT03M CC9	VITE / SCREW	M10 x 18
VT18M AR9	PIASTRA DI RISCONTRO / POSITIONING PLATE	20 x 11,6 x 2,2
CB03M EA9	CHIAVE / ALLEN KEY	5 x 110

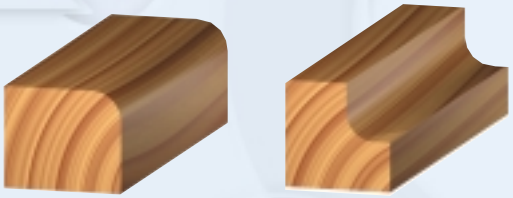
> Corpo in lega leggera (AVIONAL).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo è fornito di coltelli.

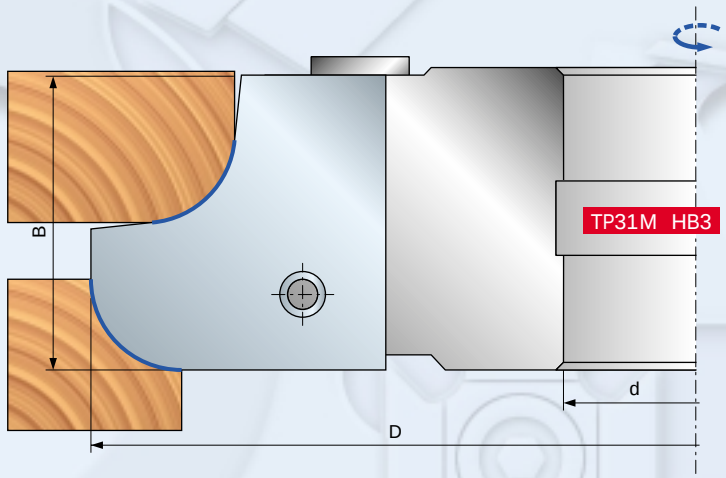
> Light alloy body (AVIONAL).
For cleaning do not use products containing caustic soda.
This item comes complete with knives in a practical carrying case.

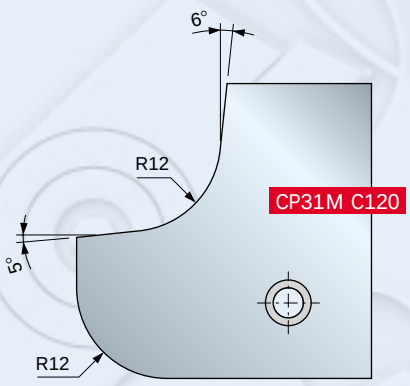
COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

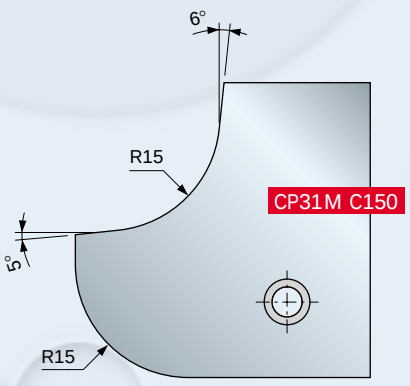
> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

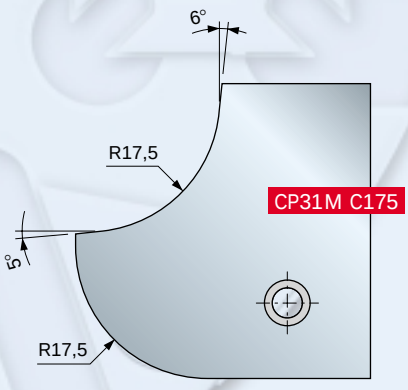
• EN 847-1 •
R&S - SV/R 154/153

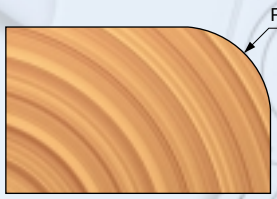


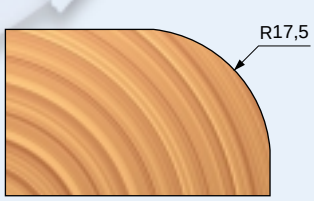










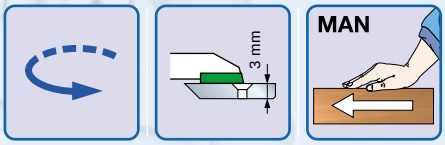


* LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

TP31M

Testa portacoltelli multiraggio
Multi radius cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP31M DB3	200	55	35 (50)	2	17,5-20-22,5-25



Coltelli Riaffilabili
Resharpenable Knives

HM freud

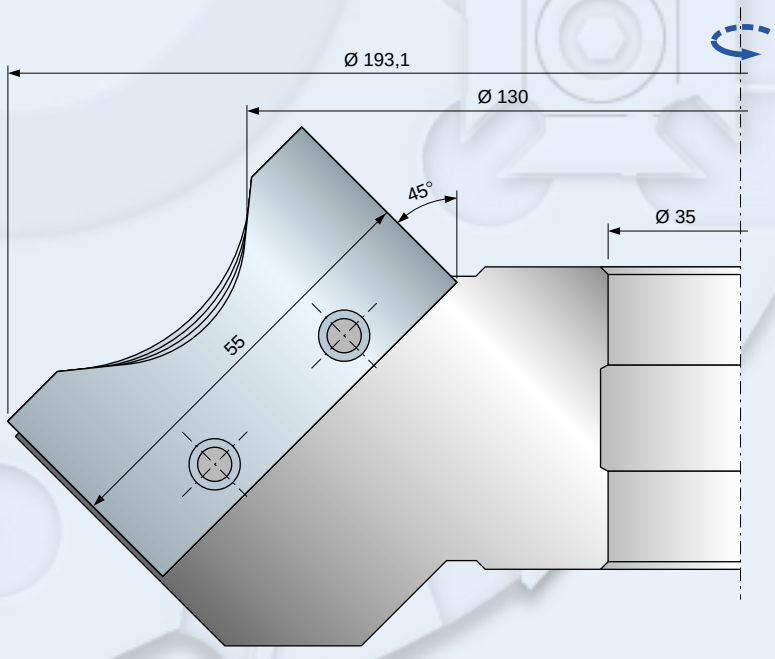
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
R&S - SV/R 155/154

Cod.		Parti di ricambio • Spare parts	Dimensioni • Dimensions
CP31M D175		Coltello / Knife	55 x 29 x 3 R17,5
CP31M D200		Coltello / Knife	55 x 29 x 3 R20
CP31M D225		Coltello / Knife	55 x 29 x 3 R22,5
CP31M D250		Coltello / Knife	55 x 29 x 3 R25
CN11M C510		Cuneo / Wedge	51 x 19 x 8
VT08M AE9		Vite / Screw	M5 x 7 x 16
2602M FI9		Vite / Screw	M10 x 25
CB03M EA9		Chiave / Allen key	5 x 110

> Corpo in lega leggera (Avional). Per la pulizia non utilizzare prodotti contenenti soda caustica.
Testa portacoltelli multiraggio, completa di 4 set di coltelli riaffilabili di diverso raggio, da utilizzare su macchina toupie.
Particolarmente adatta per lavorazioni di contornatura e profilatura su legni teneri, duri ed esotici. Ottima finitura.
I coltelli sono perfettamente intercambiabili tra loro e mantengono il diametro minimo di lavorazione; pertanto è possibile sostituire sulla testa un coltello con raggio diverso senza modificare il posizionamento della guida rispetto al pezzo lavorato.

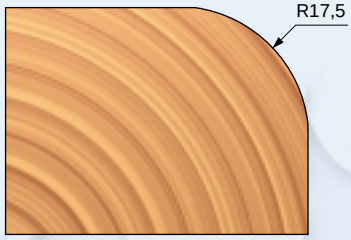
> Light alloy body (Avional). For cleaning do not use products containing caustic soda.
Cutterhead with multi radius knives, fitted with 4 sets of resharpenable knives of various radii.
To be used on a moulding machine.
This tool is particularly suitable for moulding and profiling on soft, hard and exotic wood. Top quality finish.
The knives have various radii and are fully interchangeable and keep the minimum working diameter. It is therefore possible to replace a knife with a different radius without resetting the fence with respect to the machined part.

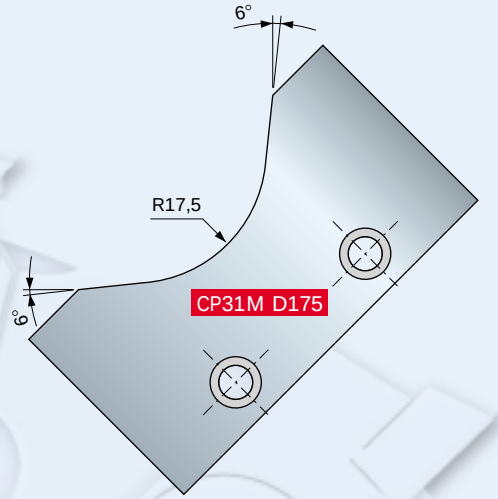


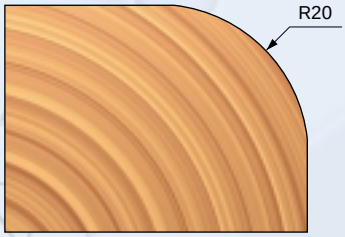
> SISTEMA PERFORMANCE SYSTEM PATENTED <

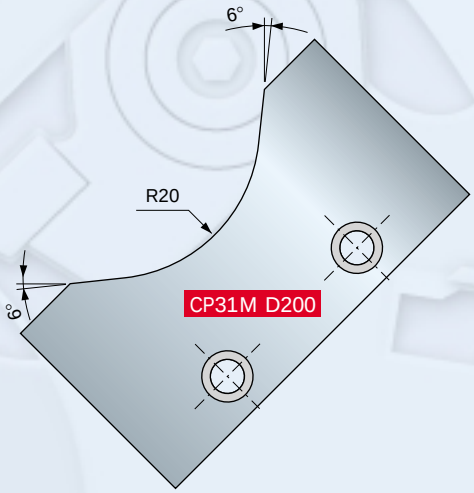
✱ La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

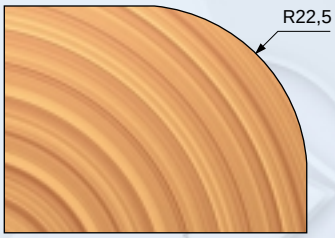
Esempi di profili realizzabili
Example of profiles

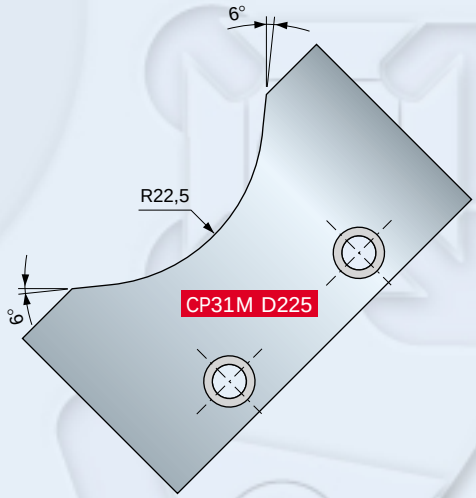


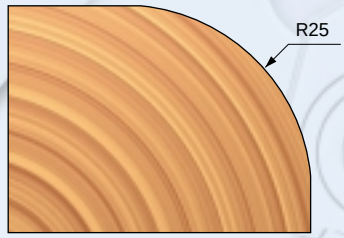


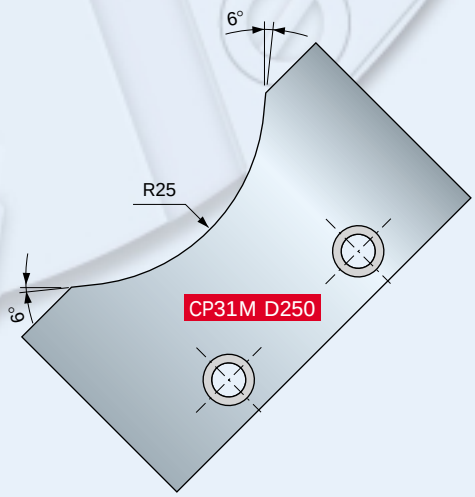








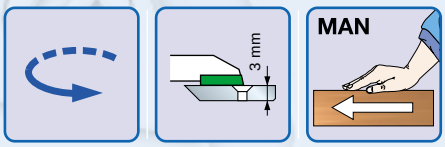




TD60M

Testa portacoltelli per profili di telai e mostrine di porte
Door frame cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TD60M AB3	200	60	35 (40)	3	



Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CT60M AA3	Coltello / Knife	55 x 35 x 3
CN60M AA9	Cuneo / Wedge	50 x 23 x 8
2602M FI9	Vite / Screw	M10 x 25
VT08M AD9	Vite / Screw	M8 x 10 x 22
CB03M EA9	Chiave / Allen key	5 x 110

> Corpo in lega leggera (Avional). Per la pulizia non utilizzare prodotti contenenti soda caustica.

Piattabanda con coltelli sagomati per profili di telai e mostrine di porte. Da utilizzare su macchina toupie.
Particolarmente adatta per lavorazioni di contornatura e profilatura su legni duri ed esotici, per l'esecuzione di telai di porte con profilo raggiato. Ottima finitura.
La profilatura delle mostrine viene eseguita in doppia passata, senza modificare il posizionamento dell'utensile rispetto al piano di lavoro.

> Light alloy body (Avional). For cleaning do not use products containing caustic soda.

Panel sizing cutterhead with profiled knives suitable for door frames and door frame covers profiles.
To be used on moulders.
This tool is particularly suitable for moulding and profiling on hard and exotic wood, to produce door frames with rounded profile.
Top quality finish.
The profiling of the door frame covers is achieved with two passes and without altering the tool's position with respect to the working surface.

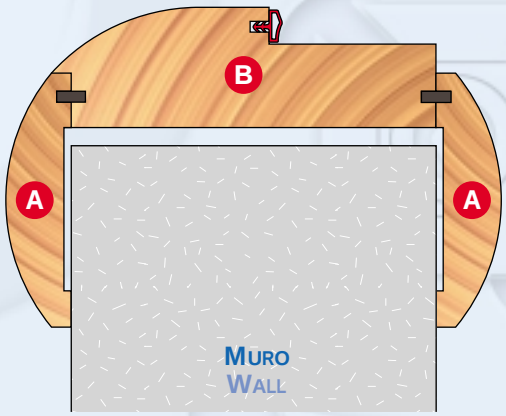
Coltelli Riaffilabili
Resharpenable Knives

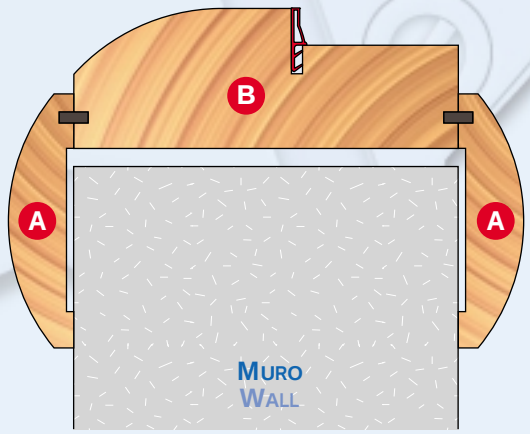
HM freud

> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
R&S - SV/R 147/146

Esempi di telai realizzabili
Example of door frames



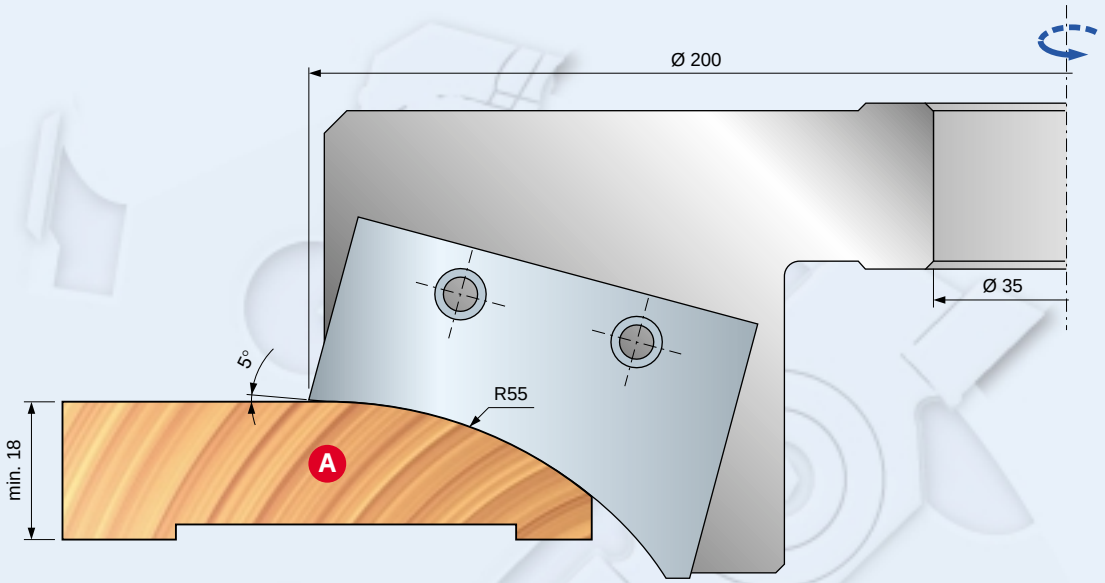


> Sistema Performance < > Performance System < patented

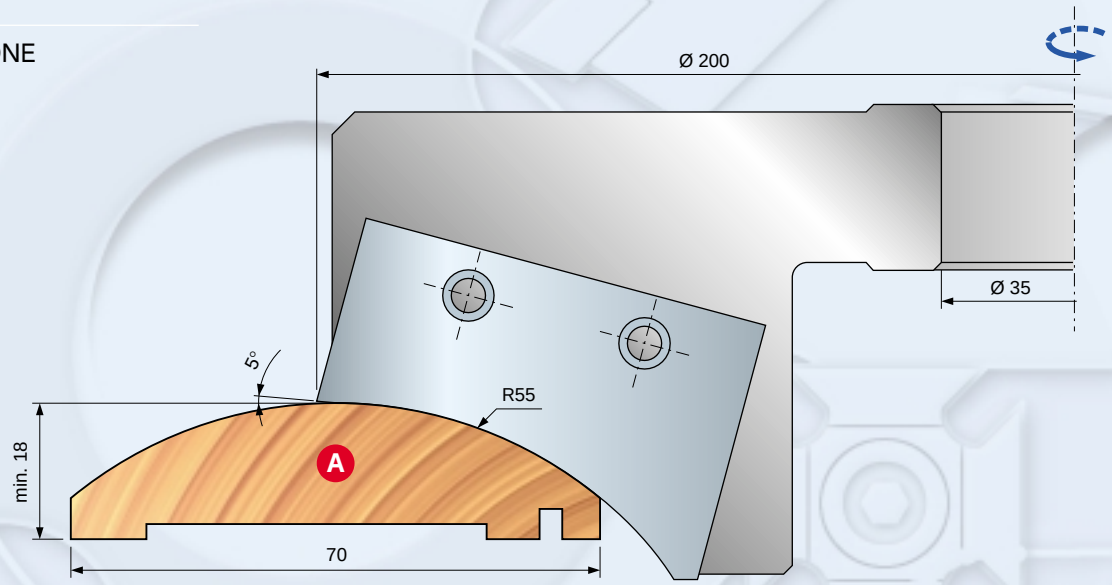
* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

ESEMPIO DI APPLICAZIONE
APPLICATION EXAMPLE

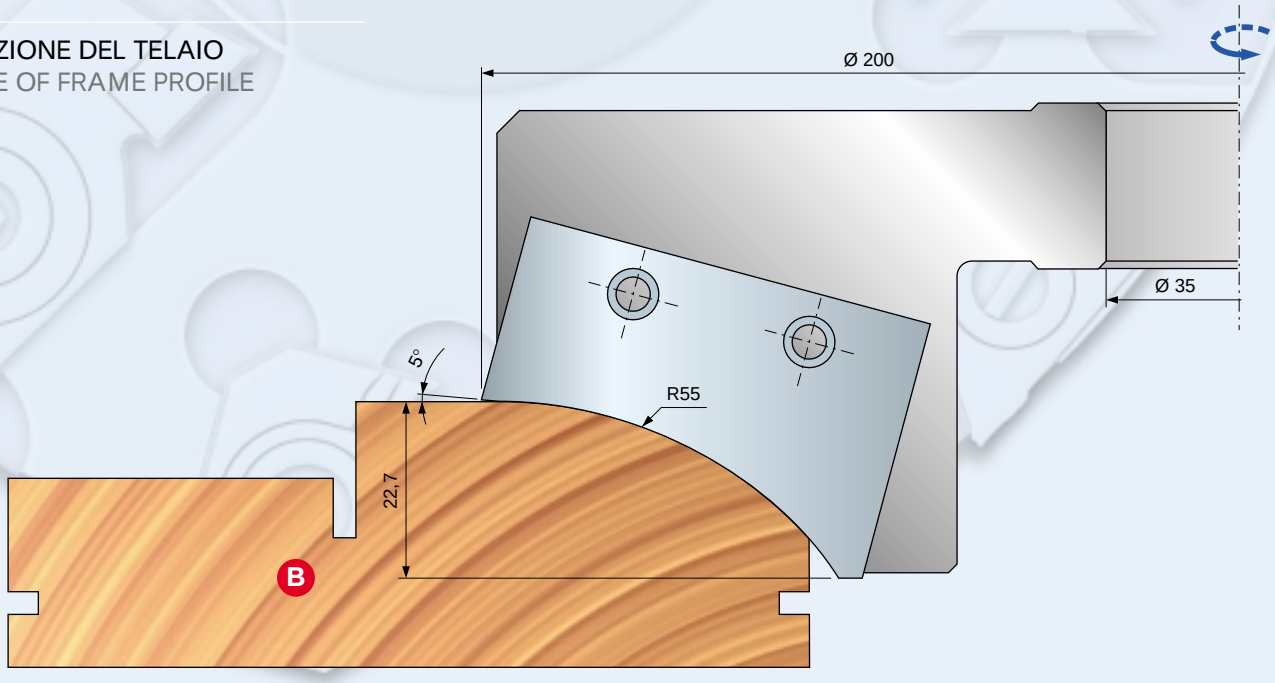
> PRIMA LAVORAZIONE
> FIRST STEP



> SECONDA LAVORAZIONE
> SECOND STEP



> LAVORAZIONE DEL TELAIO
> EXAMPLE OF FRAME PROFILE

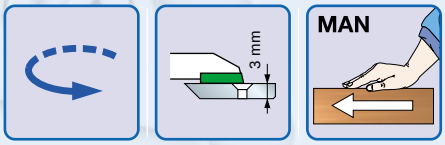


TP40M

Testa portacoltelli multiprofilo
Multiprofile cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP40M AB3	160	55	35 (50)	2	

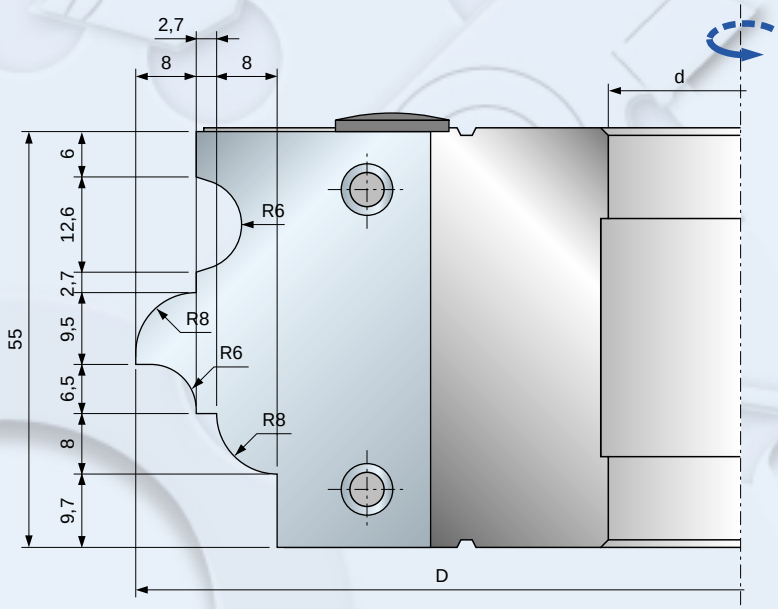
Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
CP40M AA3	Coltello / Knife	55 x 39 x 3
CN13M AH9	Cuneo / Wedge	51 x 35 x 8
VT03M CC9	Vite / Screw	M10 x 18
VT08M AE9	Vite / Screw	M5 x 7 x 16
CB03M EA9	Chiave / Allen key	5 x 110

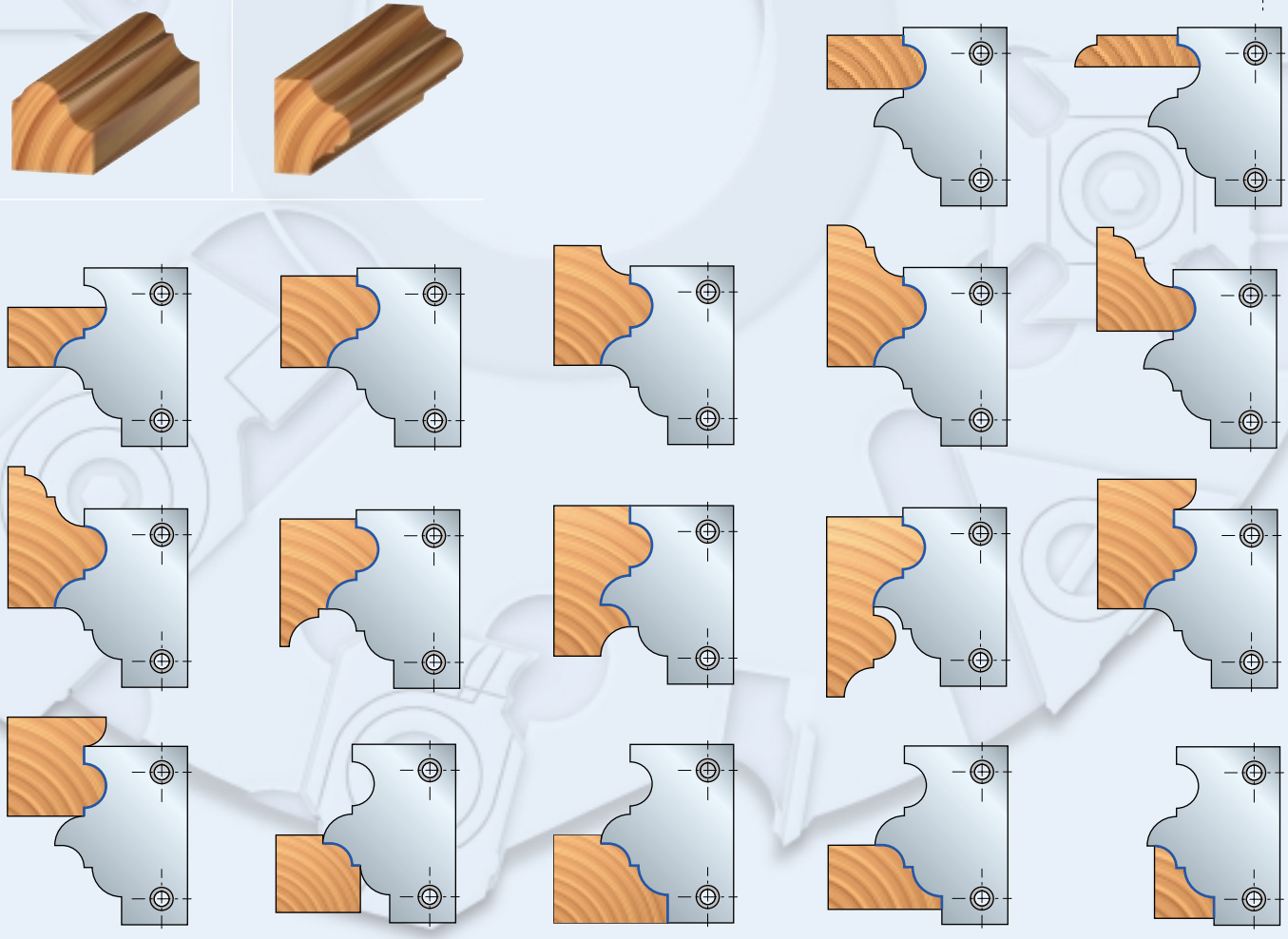


Coltelli Riaffilabili
Resharpenable Knives
HM freud

> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
R&S - SV/R 148/147





> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

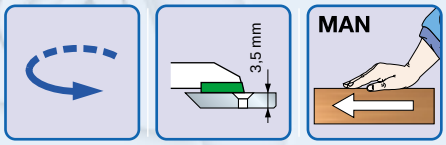
TD21M

PIATTABANDA MULTIPROFILO
RAISED PANEL CUTTERHEAD SET

COD.	D mm	B mm	d mm	Z	R
TD21M GB3	140	21	35	2	

COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
VT18M AL9	RONDELLA / RING	14 x 2 x 6
VT18M AI9	PIASTRA DI RISCONTRO / POSITIONING PLATE	33 x 3 x 16
2622M CC9	VITE / SCREW	M6 x 12
2622M CB9	VITE / SCREW	M6 x 10
CB03M BA9	CHIAVE / ALLEN KEY	4 x 110

COD.		COLTELLI DI RICAMBIO • SPARE KNIVES	DIMENSIONI • DIMENSIONS
CT21M AA3	1	COLTELLO / KNIFE	41 x 22 x 3,5
CT21M BA3	2	COLTELLO / KNIFE	41 x 22 x 3,5
CT21M CA3	3	COLTELLO / KNIFE	41 x 22 x 3,5
CT21M DA3	4	COLTELLO / KNIFE	41 x 22 x 3,5
CT21M EA3	5	COLTELLO / KNIFE	41 x 22 x 3,5

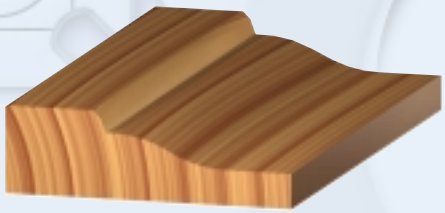


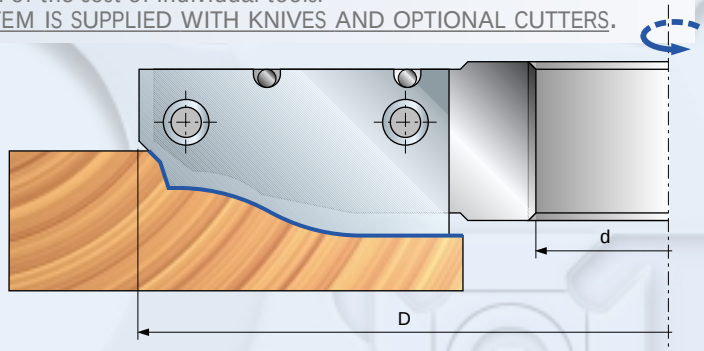
COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES

> Corpo in lega leggera (AVIONAL). Per la pulizia non utilizzare prodotti contenenti soda caustica. Esecuzione di tipo economico che permette di usare i differenti profili rappresentati in queste pagine.
L'ARTICOLO VIENE FORNITO CON COLTELLI E FRESE SUPPLEMENTARI.

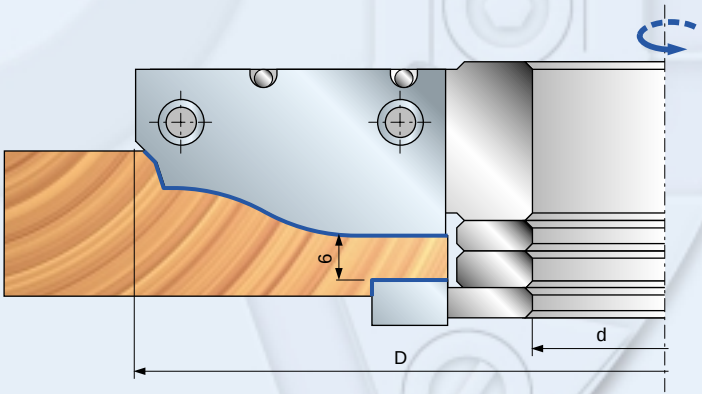
> Light alloy body (AVIONAL). For cleaning do not use products containing caustic soda. This item is supplied with knives and optional cutters. Cost saving: 5 different raised panels can be produced with this cutter at a fraction of the cost of individual tools.
THIS ITEM IS SUPPLIED WITH KNIVES AND OPTIONAL CUTTERS.

LAVORAZIONE CON PIATTABANDA
WORKING WITH RAISED PANEL CUTTERHEAD

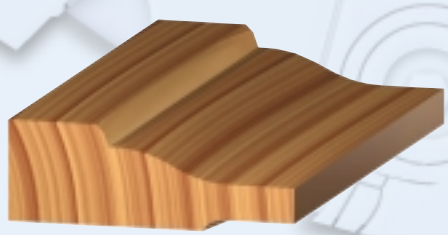


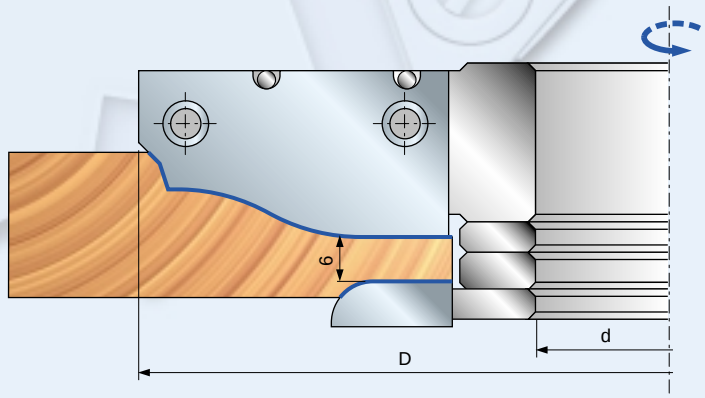


LAVORAZIONE CON FRESA SUPPLEMENTARE DIRITTA
WORKING WITH OPTIONAL STRAIGHT CUTTER



LAVORAZIONE CON FRESA SUPPLEMENTARE SAGOMATA
WORKING WITH OPTIONAL ROUNDED CUTTER

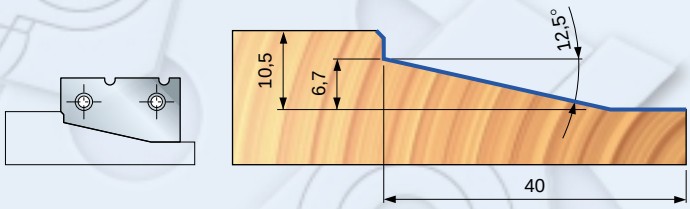




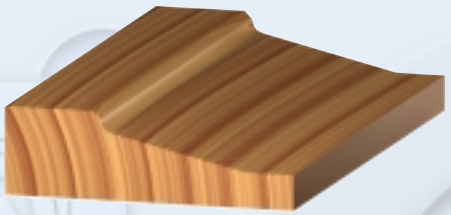
> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

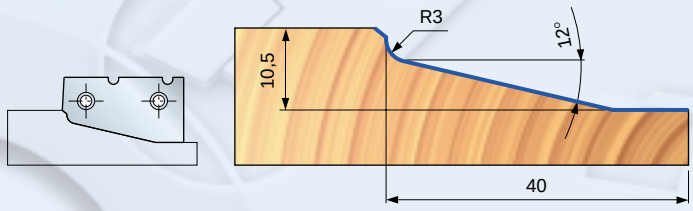
• EN 847-1 •
R&S - SV/R 158/157

PROFILO / PROFILE **1**



PROFILO / PROFILE **2**





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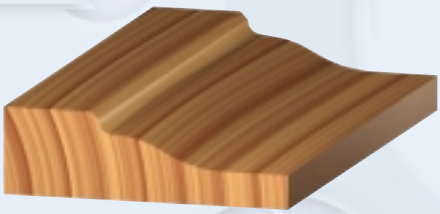
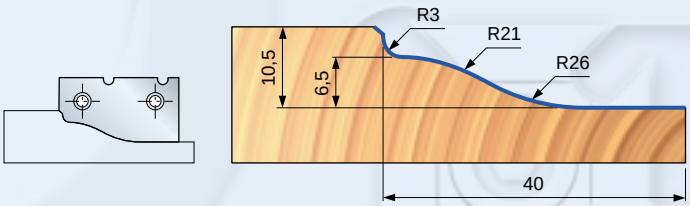
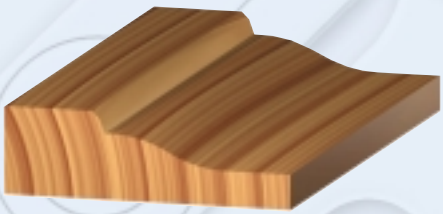
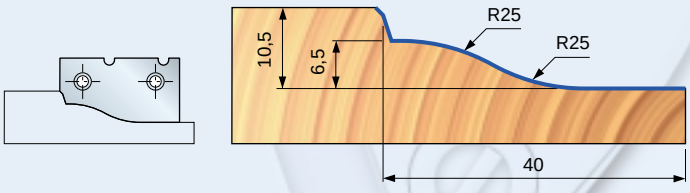


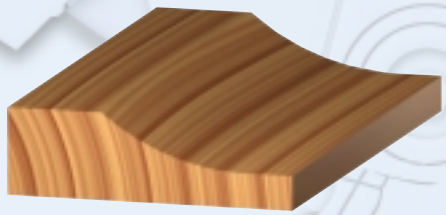


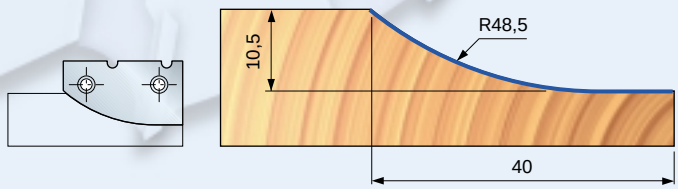
PROFILO / PROFILE **4**





PROFILO / PROFILE **5**

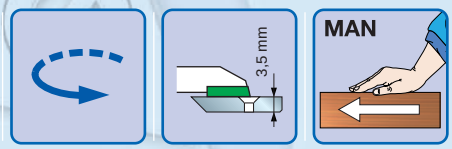




> SISTEMA PERFORMANCE SYSTEM PATENTED <
> PERFORMANCE <

TD51M

Piattabanda per legno tenero e duro
Raised panel cutterhead set for soft and hard wood



Cod.	D mm	B mm	d* mm	Z	R
TD51M AA3	180	22	30 (50)	2+2	
TD51M AB3	180	22	35 (50)	2+2	
TD51M AD3	180	21	50	2+2	

Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
VT18M AL9	Rondella / Ring	14 x 2 x 6
2622M CC9	Vite / Screw	M6 x 12
CB03M BB9	Chiave / Allen key	4 x 130

> Corpo in lega leggera (Avional). Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo viene fornito senza coltelli.

> Light alloy body (Avional). For cleaning do not use products containing caustic soda.
This item is supplied without knives.

Coltelli Riaffilabili
Resharpenable Knives

HM freud

> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
R&S - SV/R 159/158

> **CARATTERISTICHE:**

L'utensile è concepito per poter lavorare con 2 taglienti su legno tenero oppure con gli altri 2 taglienti su legno duro, con perfetta finitura, sia di testa che lungovena. Questo risultato si è potuto ottenere grazie alla scelta di diversi angoli di taglio sulle sedi per coltello.
Si possono montare solo 2 coltelli alla volta e vanno montati diametralmente opposti. Le dimensioni dei coltelli per il legno duro sono diverse da quelle per legno tenero, però realizzano lo stesso profilo.

> **FEATURES:**

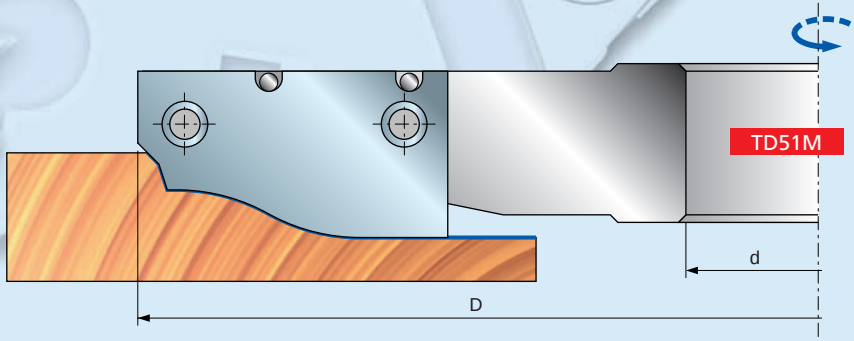
This tool is designed to perfectly cut softwood or hardwood with two knives, with both along the grain or end grain feeding. This result has been achieved by choosing different cutting angles according to the type of wood to be machined. Only two knives are to be fitted on the tool at one time, in opposite direction. The dimensions of the knives for cutting hardwood and softwood are different but the same profile is achieved.

> 2 Coltelli per Legno Tenero • 2 Knives for Softwood

Cod.	Coltelli di ricambio • Spare knives	Dimensioni • Dimensions
CT51M AA3	1 Coltello/Knife	41 x 28 x 3,5
CT51M BA3	2 Coltello/Knife	41 x 28 x 3,5
CT51M CA3	3 Coltello/Knife	41 x 28 x 3,5
CT51M DA3	4 Coltello/Knife	41 x 28 x 3,5
CT51M EA3	5 Coltello/Knife	41 x 28 x 3,5

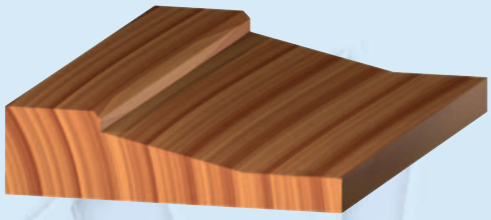
> 2 Coltelli per Legno Duro • 2 Knives for Hardwood

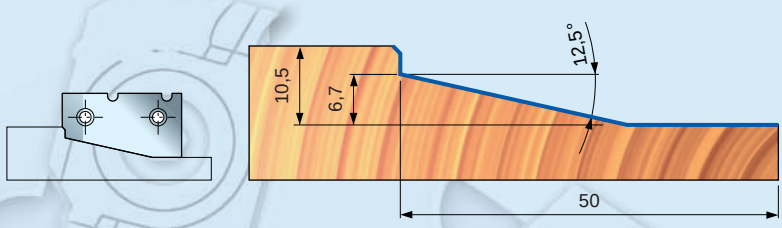
Cod.	Coltelli di ricambio • Spare knives	Dimensioni • Dimensions
CT21M AA3	1 Coltello/Knife	41 x 22 x 3,5
CT21M BA3	2 Coltello/Knife	41 x 22 x 3,5
CT21M CA3	3 Coltello/Knife	41 x 22 x 3,5
CT21M DA3	4 Coltello/Knife	41 x 22 x 3,5
CT21M EA3	5 Coltello/Knife	41 x 22 x 3,5



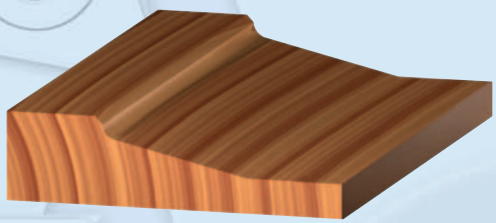
* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

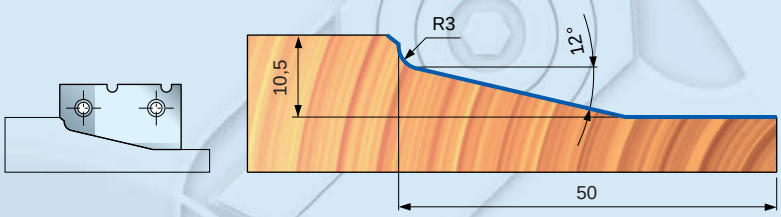
PROFILO / PROFILE **1**



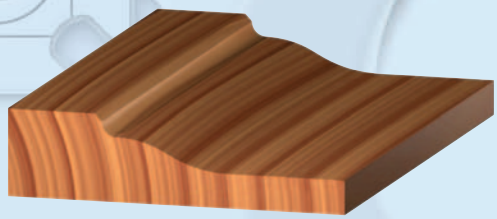


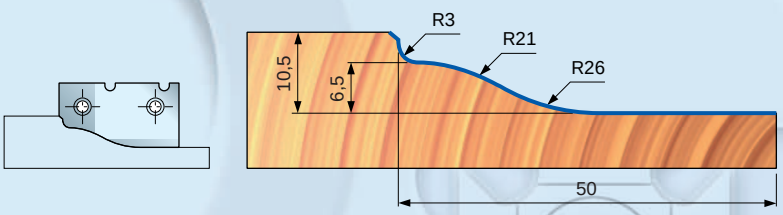
PROFILO / PROFILE **2**



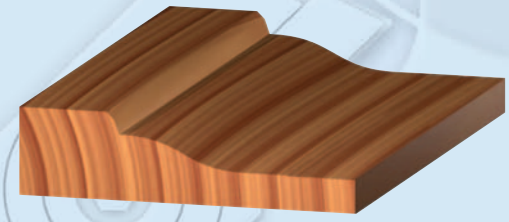


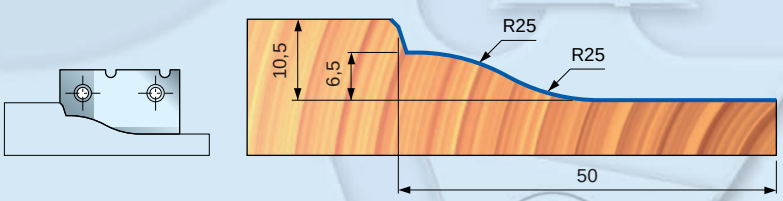
PROFILO / PROFILE **3**



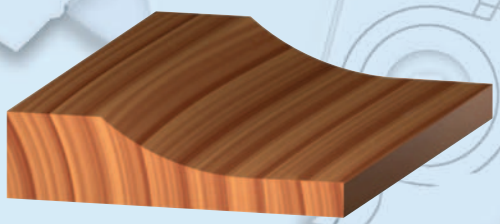


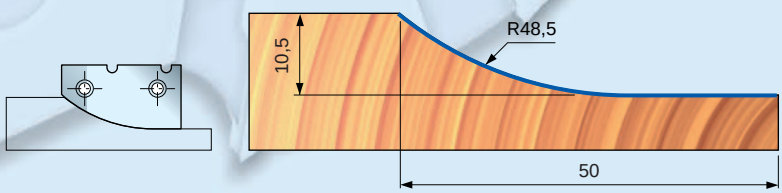
PROFILO / PROFILE **4**





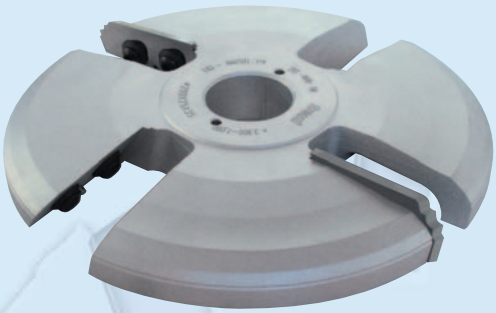
PROFILO / PROFILE **5**

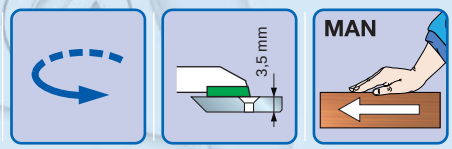




TD52M
TD52MD

PIATTABANDA PER LEGNO TENERO E DURO
RAISED PANEL CUTTERHEAD SET FOR SOFT AND HARD WOOD





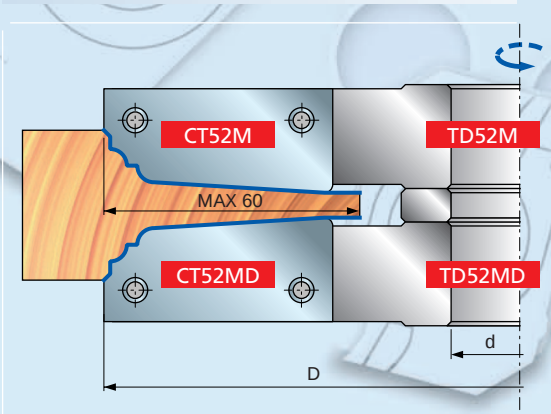
COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

• EN 847-1 •
R&S - SV/R 160/159

> **CARATTERISTICHE:**
L'utensile è concepito per poter lavorare con 2 taglienti su legno tenero oppure con gli altri 2 taglienti su legno duro, con perfetta finitura, sia di testa che lungovena. Questo risultato si è potuto ottenere grazie alla scelta di diversi angoli di taglio sulle sedi per coltello. Si possono montare solo 2 coltelli alla volta e vanno montati diametralmente opposti. Le dimensioni dei coltelli per il legno duro sono diverse da quelle per legno tenero, però realizzano lo stesso profilo.

> **FEATURES:**
This tool is designed to perfectly cut softwood or hardwood with two knives, with both along the grain or end grain feeding. This result has been achieved by choosing different cutting angles according to the type of wood to be machined. Only two knives are to be fitted on the tool at one time, in the opposite direction. The dimensions of the knives for cutting hardwood and softwood are different but the same profile is achieved.



COD.	D mm	B mm	d* mm	Z	R
TD52M CB3(1)	200	25	35 (50)	2+2	
TD52MD CB3(1)	200	25	35 (50)	2+2	

(1) QUESTI ARTICOLI VENGONO FORNITI CON COLTELLI.
(1) THESE ITEMS ARE SUPPLIED WITH KNIVES.

COD.	D mm	B mm	d* mm	Z	R
TD52M HB3(2)	200	25	35 (50)	2+2	
TD52MD HB3(2)	200	25	35 (50)	2+2	

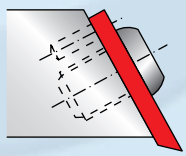
(2) QUESTI ARTICOLI VENGONO FORNITI SENZA COLTELLI.
(2) THESE ITEMS ARE SUPPLIED WITHOUT KNIVES.

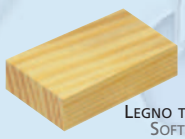
COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
VT18M AL9	RONDELLA / RING	14 x 2 x 6
2622M CC9	VITE / SCREW	M6 x 12
CB03M BB9	CHIAVE / ALLEN KEY	4 x 130

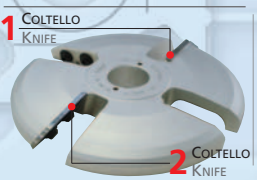
> Corpo in lega leggera (AVIONAL). Per la pulizia non utilizzare prodotti contenenti soda caustica.
> Light alloy body (AVIONAL). For cleaning do not use products containing caustic soda.

> 2 COLTELLI PER LEGNO TENERO • 2 KNIVES FOR SOFTWOOD

COD.	COLTELLI DI RICAMBIO • SPARE KNIVES	DIMENSIONI • DIMENSIONS
CT52M CT52MD TA3	1 COLTELLO KNIFE	55 x 30 x 3,5
CT52M CT52MD TB3	2 COLTELLO KNIFE	55 x 30 x 3,5
CT52M CT52MD TC3	3 COLTELLO KNIFE	55 x 30 x 3,5
CT52M CT52MD TD3	4 COLTELLO KNIFE	55 x 30 x 3,5
CT52M CT52MD TE3	5 COLTELLO KNIFE	55 x 30 x 3,5

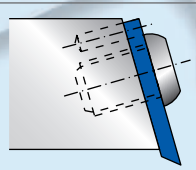


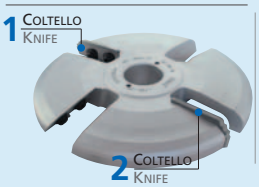




> 2 COLTELLI PER LEGNO DURO • 2 KNIVES FOR HARDWOOD

COD.	COLTELLI DI RICAMBIO • SPARE KNIVES	DIMENSIONI • DIMENSIONS
CT52M CT52MD DA3	1 COLTELLO KNIFE	55 x 25 x 3,5
CT52M CT52MD DB3	2 COLTELLO KNIFE	55 x 25 x 3,5
CT52M CT52MD DC3	3 COLTELLO KNIFE	55 x 25 x 3,5
CT52M CT52MD DD3	4 COLTELLO KNIFE	55 x 25 x 3,5
CT52M CT52MD DE3	5 COLTELLO KNIFE	55 x 25 x 3,5

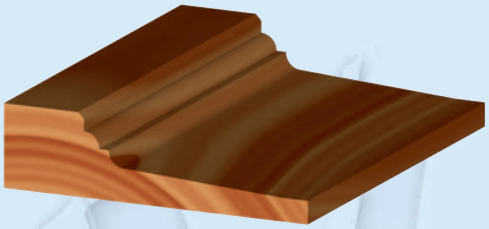


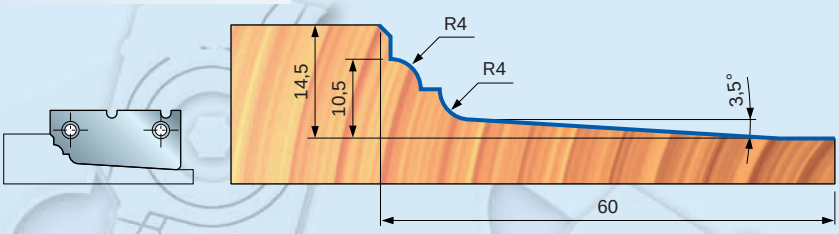


* LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

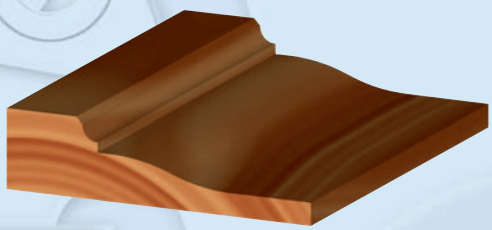
PROFILO / PROFILE 1

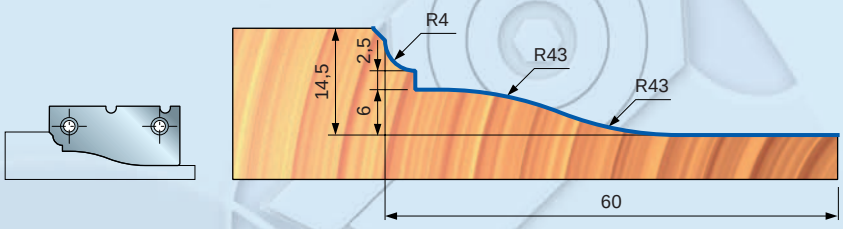
> Questo profilo è utilizzabile solamente con avanzamento meccanico.
> This profile is usable with automatic feed only.



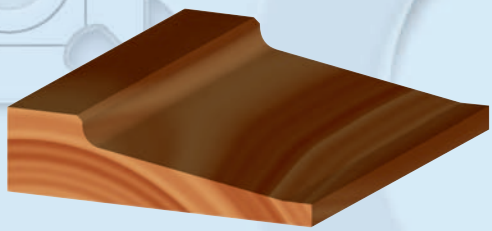


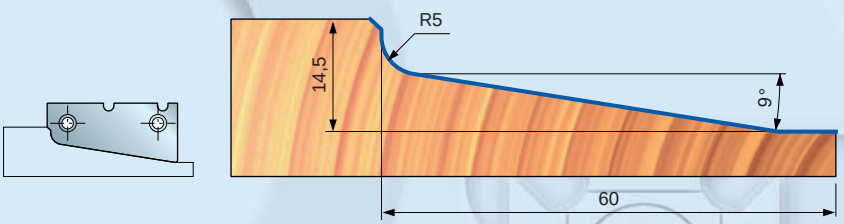
PROFILO / PROFILE 2



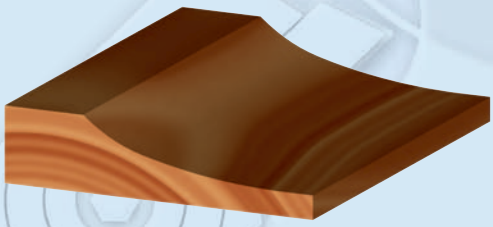


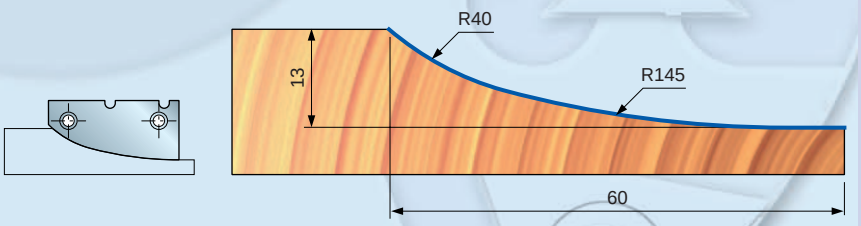
PROFILO / PROFILE 3



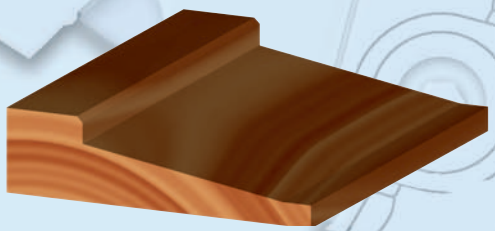


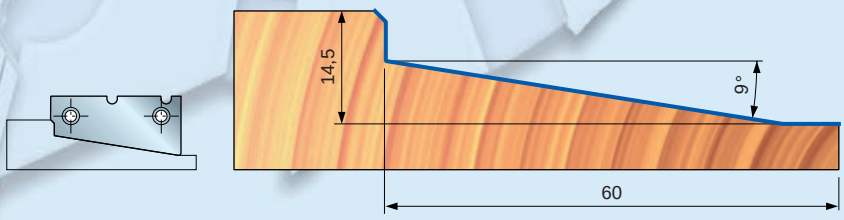
PROFILO / PROFILE 4





PROFILO / PROFILE 5

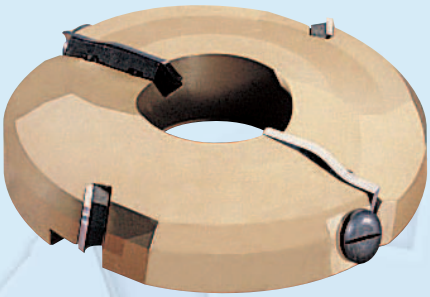


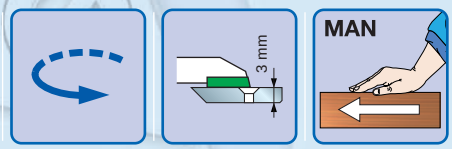


TD55MD
TD55MS

PIATTABANDA MULTIPROFILO
RAISED PANEL CUTTERHEAD

COD.	D mm	B mm	d* mm	Z	R
TD55MD BB3	210		35 (50)	2+2	
TD55MS BB3	210		35 (50)	2+2	





	COD.	PARTI DI RICAMBIO • SPARE PARTS		DIMENSIONI • DIMENSIONS
TD55MD	CN55MD AA9	CUNEO / WEDGE	A	21 x 23 x 8
	CN55MD BA9	CUNEO / WEDGE	B	61 x 18 x 8
TD55MS	CN55MS AA9	CUNEO / WEDGE	A	21 x 23 x 8
	CN55MS BA9	CUNEO / WEDGE	B	61 x 18 x 8
	2602M FI9	VITE / SCREW		M10 x 25
	VT08M AD9	VITE / SCREW		M8 x 10 x 22
	VT08M AE9	VITE / SCREW		M5 x 7 x 16
	CB03M EA9	CHIAVE / ALLEN KEY		5 x 110

> Corpo in lega leggera (AVIONAL). Per la pulizia non utilizzare prodotti contenenti soda caustica.

> Light alloy body (AVIONAL). For cleaning do not use products containing caustic soda.

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES

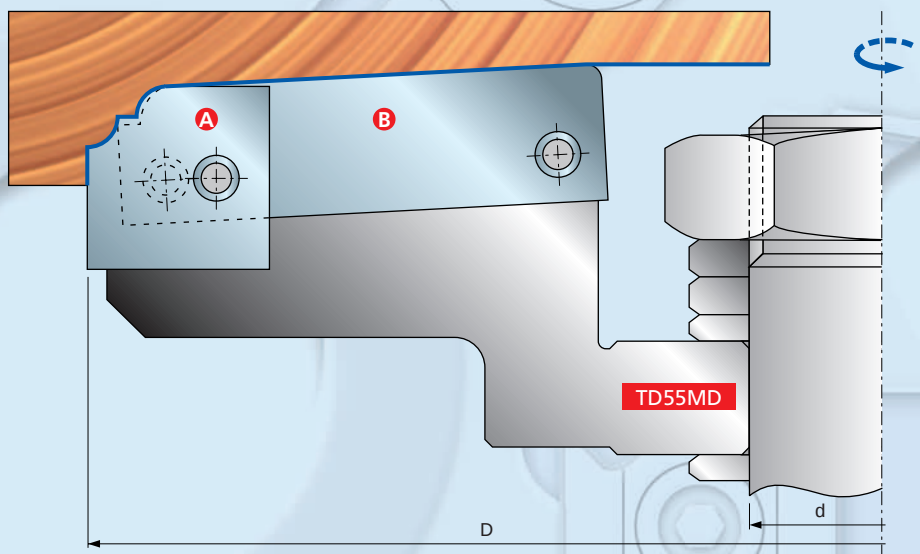
HM freud

> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

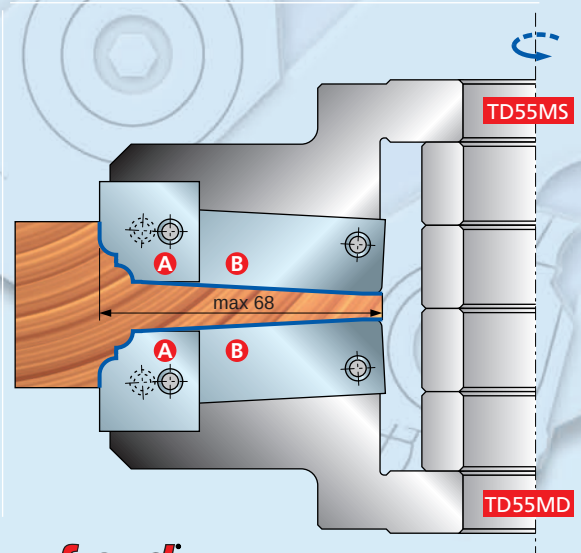
• EN 847-1 •
R&S - SV/R 161/160

> **CARATTERISTICHE:**
Con questo utensile si possono ottenere n. 5 tipi di profili diversi (vedi disegni). Possibilità di realizzare specchietti lunghi anche oltre l'albero portautensili (particolarmente utile per l'esecuzione di specchietti per portoni).
QUESTI ARTICOLI VENGONO FORNITI SENZA COLTELLI.

> **FEATURES:**
It is possible to fit 5 types of standard knives for machining 5 different profiles (see drawings). Due to the particular tool geometry, this item is particularly indicated for cutting deep profiles.
THESE ITEMS ARE SUPPLIED WITHOUT KNIVES.



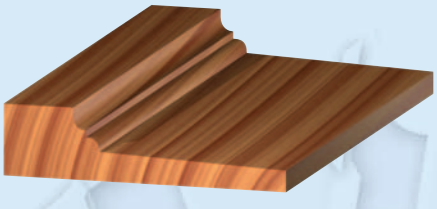
COD.	PROF.	COLTELLI PER / KNIVES FOR TD55MD		DIMENSIONI • DIMENSIONS
CT55MD AA3	1	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MD BA3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AB3	2	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MD BB3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AC3	3	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MD BC3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AE3	4	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MD BE3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AF3	5	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MD BF3		COLTELLO / KNIFE	B	65 x 20 x 3

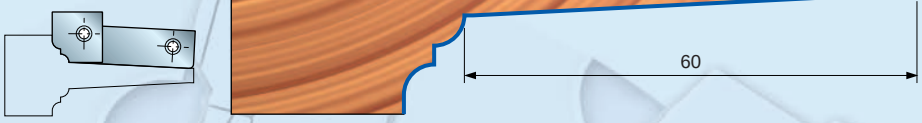


COD.	PROF.	COLTELLI PER / KNIVES FOR TD55MS		DIMENSIONI • DIMENSIONS
CT55MS AA3	1	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MS BA3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AB3	2	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MS BB3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AC3	3	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MS BC3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AE3	4	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MS BE3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AF3	5	COLTELLO / KNIFE	A	23 x 24 x 3
CT55MS BF3		COLTELLO / KNIFE	B	65 x 20 x 3

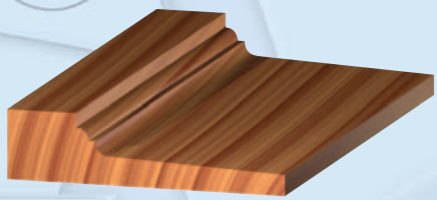
* LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

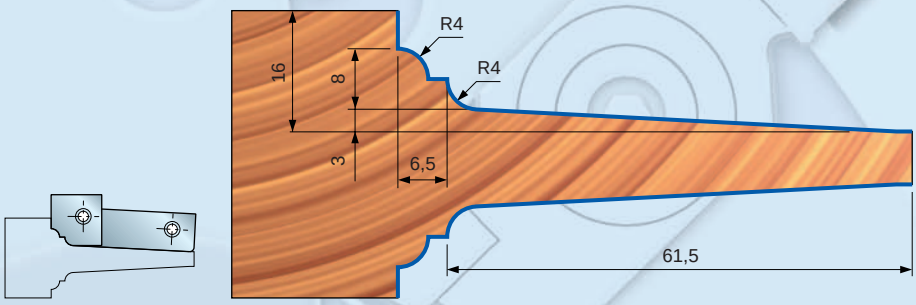
PROFILO / PROFILE **1**



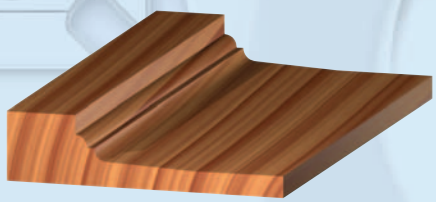


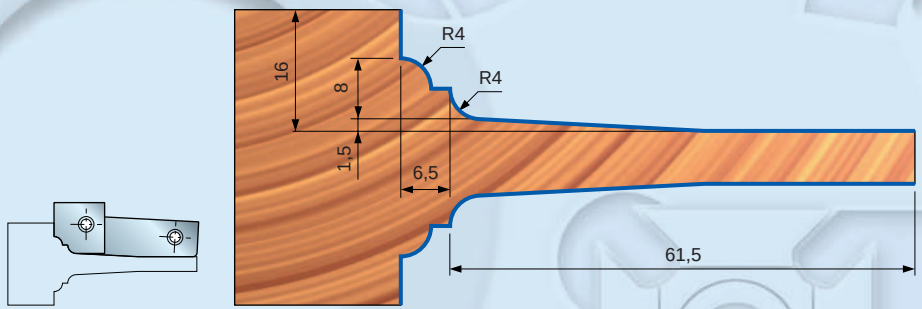
PROFILO / PROFILE **2**



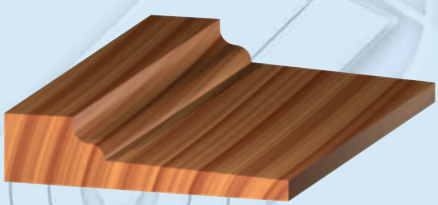


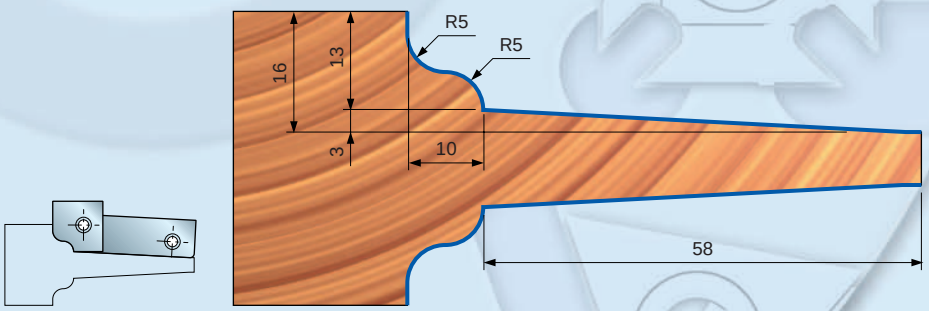
PROFILO / PROFILE **3**





PROFILO / PROFILE **4**

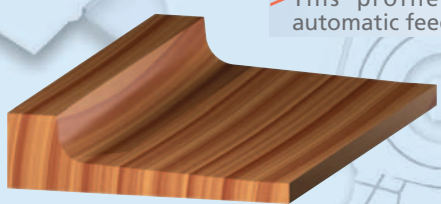


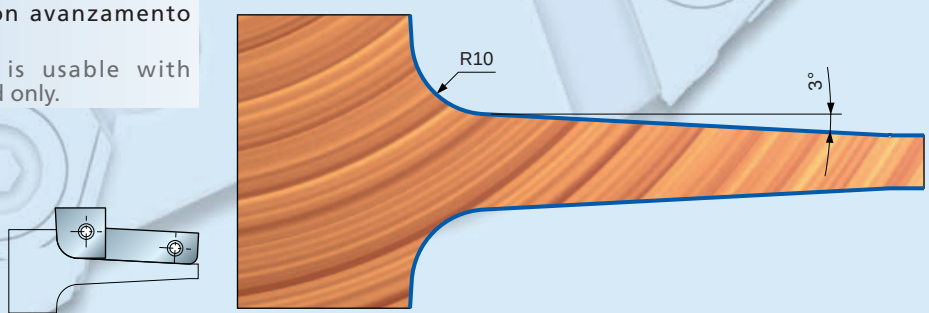


PROFILO / PROFILE **5**

> Questo profilo è utilizzabile solamente con avanzamento meccanico.

> This profile is usable with automatic feed only.

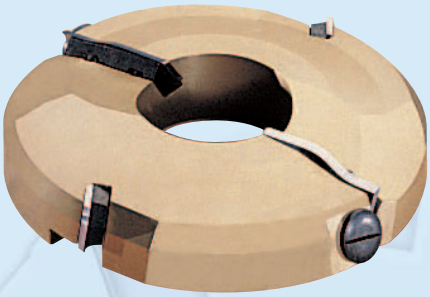


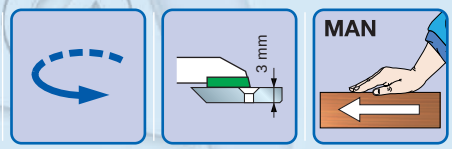


TD55MD
TD55MS

PIATTABANDA MULTIPROFILO
RAISED PANEL CUTTERHEAD

COD.	D mm	B mm	d* mm	Z	R
TD55MD CB3	210		35 (50)	2+2	
TD55MS CB3	210		35 (50)	2+2	





	COD.	PARTI DI RICAMBIO • SPARE PARTS		DIMENSIONI • DIMENSIONS
TD55MD	CN55MD AA9	CUNEO / WEDGE	A	21 x 23 x 8
	CN55MD BA9	CUNEO / WEDGE	B	61 x 18 x 8
TD55MS	CN55MS AA9	CUNEO / WEDGE	A	21 x 23 x 8
	CN55MS BA9	CUNEO / WEDGE	B	61 x 18 x 8
	2602M FI9	VITE / SCREW		M10 x 25
	VT08M AD9	VITE / SCREW		M8 x 10 x 22
	VT08M AE9	VITE / SCREW		M5 x 7 x 16
	CB03M EA9	CHIAVE / ALLEN KEY		5 x 110

> Corpo in lega leggera (AVIONAL). Per la pulizia non utilizzare prodotti contenenti soda caustica.

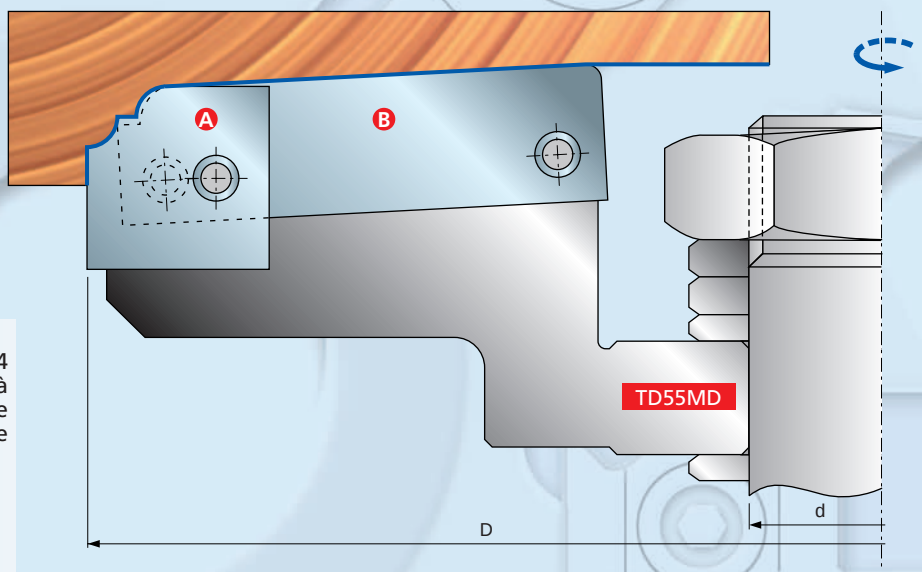
> Light alloy body (AVIONAL). For cleaning do not use products containing caustic soda.

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES

HM freud

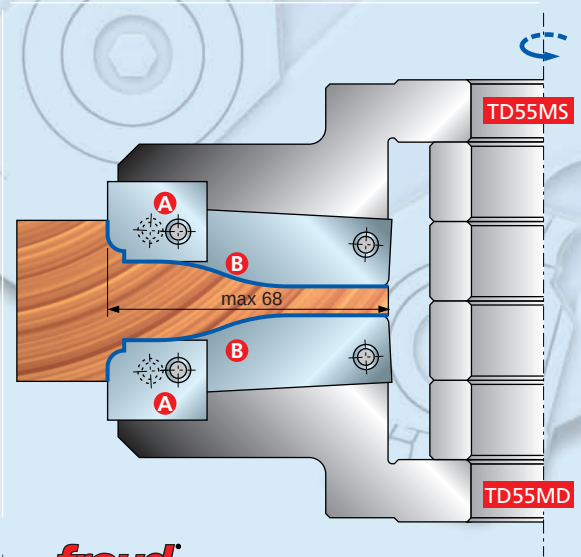
> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

• EN 847-1 •
R&S - SV/R 162/161



> **CARATTERISTICHE:**
Con questo utensile si possono ottenere n. 4 tipi di profili diversi (vedi disegni). Possibilità di realizzare specchietti lunghi anche oltre l'albero portautensili (particolarmente utile per l'esecuzione di specchietti per portoni).
QUESTI ARTICOLI VENGONO FORNITI SENZA COLTELLI.

> **FEATURES:**
It is possible to fit 4 types of standard knives for machining 4 different profiles (see drawings). Due to the particular tool geometry, this item is particularly indicated for cutting deep profiles.
THESE ITEMS ARE SUPPLIED WITHOUT KNIVES.

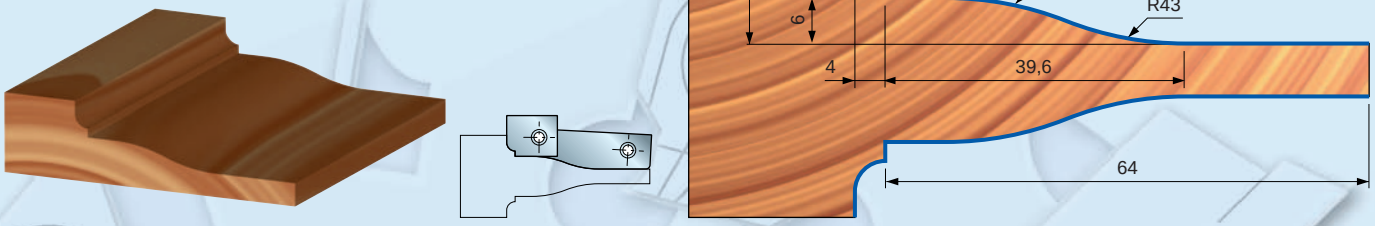


COD.	PROF.	COLTELLI PER / KNIVES FOR TD55MD		DIMENSIONI • DIMENSIONS
CT55MD AD3	1	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MD BD3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AG3	2	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MD BG3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AH3	3	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MD BH3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MD AI3	4	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MD BI3		COLTELLO / KNIFE	B	65 x 20 x 3

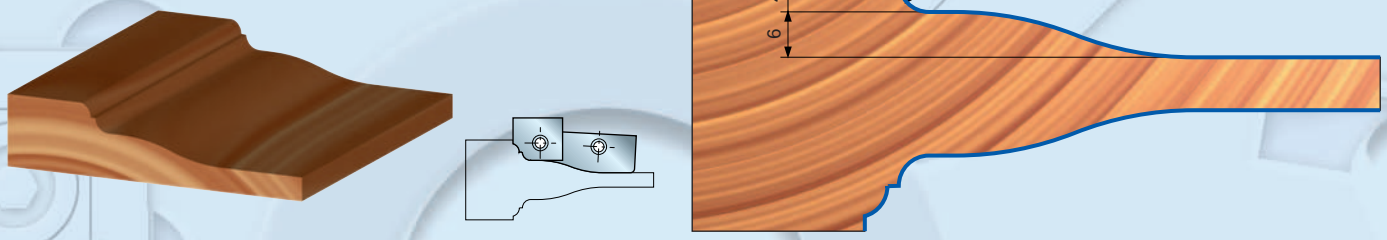
COD.	PROF.	COLTELLI PER / KNIVES FOR TD55MS		DIMENSIONI • DIMENSIONS
CT55MS AD3	1	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MS BD3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AG3	2	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MS BG3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AH3	3	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MS BH3		COLTELLO / KNIFE	B	65 x 20 x 3
CT55MS AI3	4	COLTELLO / KNIFE	A	20 x 24 x 3
CT55MS BI3		COLTELLO / KNIFE	B	65 x 20 x 3

* LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

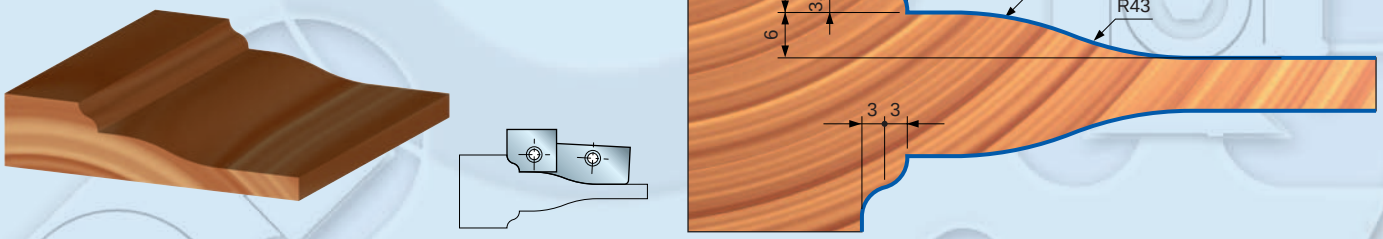
PROFILO / PROFILE **1**



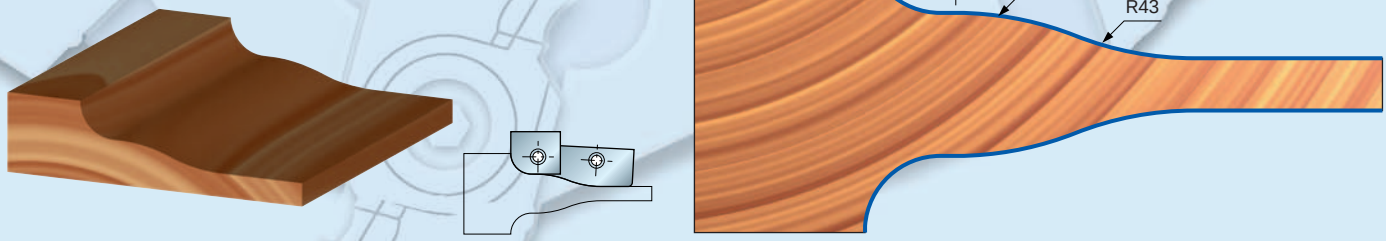
PROFILO / PROFILE **2**



PROFILO / PROFILE **3**



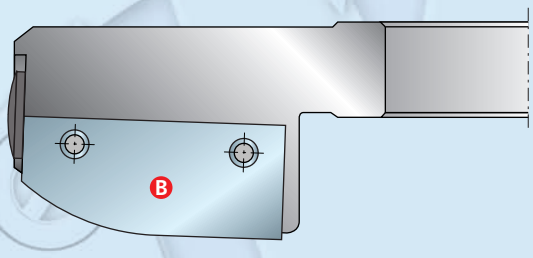
PROFILO / PROFILE **4**



PIATTABANDE SPECIALI
SPECIAL RAISED PANEL CUTTERHEADS

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

TD17 Z = 2
TD18 Z = 3
TD19 Z = 4

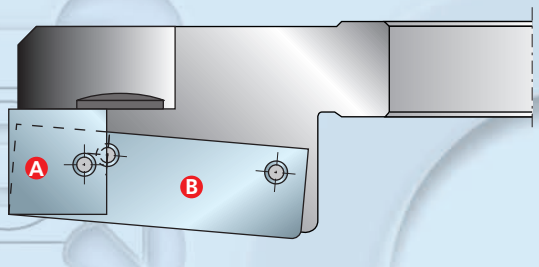


> PROFILO "B" SEMPLICE
> SIMPLE PROFILE "B"

COD.	D mm	B mm	d mm	Z	R
TD1... AA3	180				
TD1... BA3	200				
TD1... CA3	220				
TD1... DA3	250				
TD1... EA3	300				

> Per i coltelli di ricambio fare sempre riferimento a CK02.
> For spare knives, always refer to article code CK02.

TD20

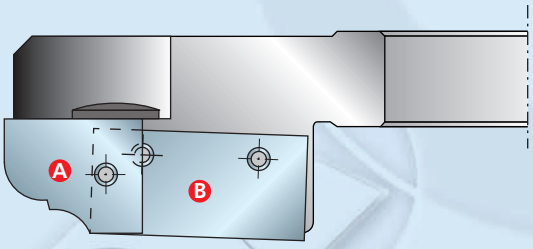


> PROFILI "A" E "B" DIRITTI
> STRAIGHT PROFILES "A" AND "B"

COD.	D mm	B mm	d mm	Z	R
TD20 BA3	200			2+2	
TD20 DA3	250			2+2	
TD20 EA3	300			2+2	

> Per i coltelli di ricambio fare sempre riferimento a CK01 (sia per il coltello piccolo che per il coltello grande).
> For spare knives, always refer to article code CK01 for both the small and large knives.

TD21

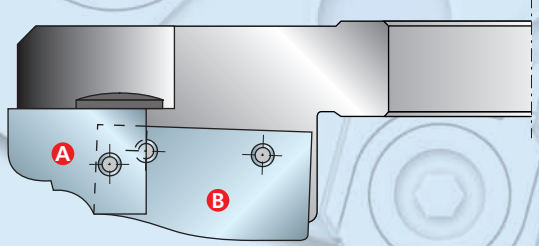


> PROFILO "A" SAGOMATO E "B" DIRITTO
> STRAIGHT PROFILE "B" AND SHAPED PROFILE "A"

COD.	D mm	B mm	d mm	Z	R
TD21 BA3	200			2+2	
TD21 DA3	250			2+2	
TD21 EA3	300			2+2	

> Per i coltelli di ricambio fare sempre riferimento a CK02 per il coltello piccolo e a CK01 per quello grande.
> For spare knives, always refer to article code CK02 for the small and CK01 for the large knives.

TD22



> PROFILI "A" E "B" SAGOMATI
> SHAPED PROFILES "A" AND "B"

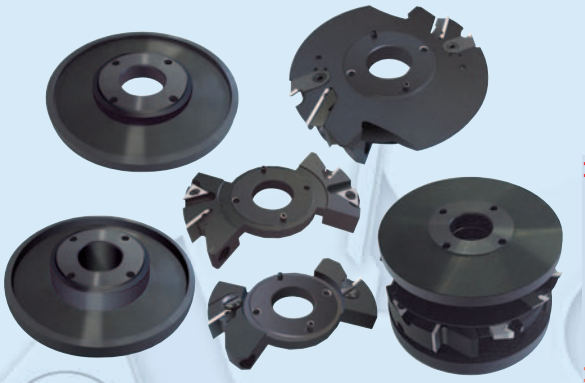
COD.	D mm	B mm	d mm	Z	R
TD22 BA3	200			2+2	
TD22 DA3	250			2+2	
TD22 EA3	300			2+2	

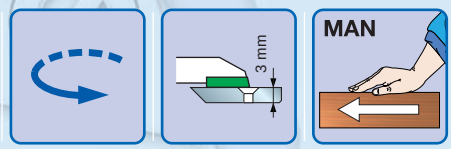
> Per i coltelli di ricambio fare sempre riferimento a CK02 (sia per il coltello piccolo che per il coltello grande).
> For spare knives, always refer to article code CK02 for both the small and large knives.

> **N.B.:** Per avere la programmazione aggiungere all'ordine di due piattabande il cod.: **OPT02 AA9.** Per l'utilizzo con avanzamento manuale aggiungere all'ordine il cod.: **OPTAM AA9.**
> **Note:** To have the adjustment, add to the order of 2 raised panel cutterheads, item code **OPT02 AA9.** To use the tool with manual feed, add to the order of 2 raised panel cutterheads, item code **OPTAM AA9.**

TPSEM

Teste portacoltelli per profilo e controprofilo
Cutterhead set for cabinet doors





Cod.	D mm	B mm	d* mm	Z	R
(1) TPSEM22GB3	160		35 (50)		
(2) TPSEM30GB3	160		35 (50)		

> Gruppi completi per antine con spessori rispettivamente di 22 e 30 mm. Articoli forniti in valigetta.

(1) Il gruppo TPSEM22GB3 è composto da:
TPSEM AB3*, TPSEM CB3, TPSEMDB3, FXSEM AB9 e FXSEM BB9.

(2) Il gruppo TPSEM30GB3 è composto da:
TPSEM BB3*, TPSEM CB3, TPSEMDB3, FXSEM AB9 e FXSEM BB9.

> Complete cabinet door sets with either 22 mm or 30 mm thickness. This item comes in a pratical carrying case.

(1) The TPSEM22GB3 set includes items:
TPSEM AB3*, TPSEM CB3, TPSEMDB3, FXSEM AB9 and FXSEM BB9.

(2) The TPSEM30GB3 set includes items:
TPSEM BB3*, TPSEM CB3, TPSEMDB3, FXSEM AB9 and FXSEM BB9.

Coltelli Riaffilabili
Resharpenable Knives

HM freud

> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
(1) R&S - SV/R 176/175
(2) R&S - SV/R 177/176

	Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
TPSEM AB3	TPSEM AB3*	Testa di ricambio / Spare cutterhead	160 x 35 x 35 Z2+4
	CN13MD AM9	Cuneo / Wedge	30,7 x 33 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	VT08M AE9	Vite / Screw	M5 x 7 x 16
	IG04MS AA3	Inserto per incastri / Grooving insert	40 x 16 x 4
	SR06MD AL3	Inserto rasante / Spur insert	34 x 4 x 16
	VT16M AA9	Vite / Screw	M6 x 14,5
	ID04MS AA9	Deflettore / Deflector	30,8 x 7 x 24,5
	VT05M DA9	Vite per: / Screw for: ID04M	M4 x 12
	VT18M AS9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2
TPSEM BB3	TPSEM BB3*	Testa di ricambio / Spare cutterhead	160 x 35 x 35 Z2+4
	CN13MD AM9	Cuneo / Wedge	30,7 x 33 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	IG04MS AD3	Inserto per incastri / Grooving insert	40 x 16 x 6
	SR06MD AL3	Inserto rasante / Spur insert	34 x 4 x 16
	VT16M AA9	Vite / Screw	M6 x 14,5
	ID04MS AD9	Deflettore / Deflector	30,8 x 8 x 24,5
	VT05M DA9	Vite per: / Screw for: ID04M..	M4 x 12
	VT18M AS9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2
TPSEM CB3	TPSEM CB3	Testa di ricambio / Spare cutterhead	152 x 20,4 x 35 Z2+4
	CPSEM CA3	Coltello / Knife	20 x 24 x 3
	CN11M B160	Cuneo / Wedge	16 x 17 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	RG02M AA3	Rasante / Spur	22,86 x 2,5
TPSEM DB3	TPSEM DB3	Testa di ricambio / Spare cutterhead	138 x 20 x 35 Z2+4
	CPSEM DA3	Coltello / Knife	17 x 24 x 3
	CN11M B160	Cuneo / Wedge	16 x 17 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	VT18M AR9	Piastra di riscontro / Positioning plate	20 x 11,6 x 2,2
	VT05M AA9	Vite / Screw	M5 x 8
	FXSEM AB9	Flangia superiore / Upper flange	152 x 13,6 x 35
	FXSEM BB9	Flangia inferiore / Lower flange	152 x 28 x 35
	CB03M BA9	Chiave / Allen key	4 x 110
	CB03M EA9	Chiave / Allen key	5 x 110

> * Le teste portacoltelli AB3 e BB3 vengono fornite senza i coltelli.
La testa **TPSEM AB3** si utilizza per la produzione di antine di spessore **22 mm**; la testa **TPSEM BB3** per la produzione di antine di spessore **30 mm.**

> * Cutterheads AB3 and BB3 are supplied without knives.
Cutterhead **TPSEM AB3** is used to produce cabinet doors with a **22 mm** thickness; cutterhead **TPSEM BB3** is used to produce cabinet doors with a **30 mm** thickness.

Importante

Il gruppo di teste portacoltelli deve essere utilizzato esclusivamente con flange superiore ed inferiore montate. L'utilizzo degli utensili singolarmente non è consentito su macchine ad avanzamento manuale. Il costruttore declina ogni responsabilità sull'uso improprio degli utensili.

Important

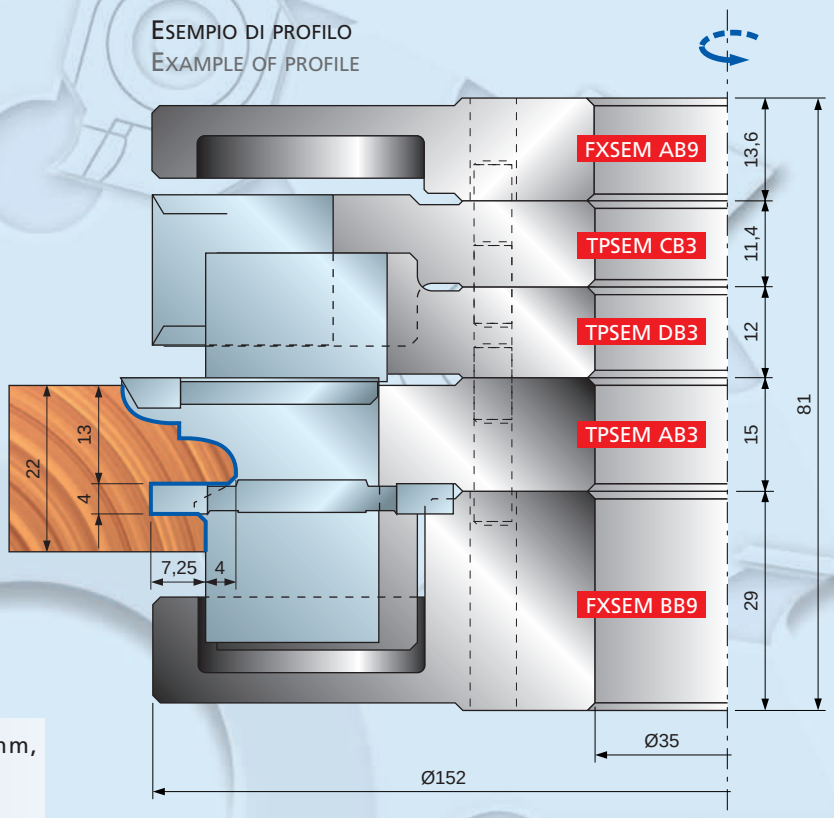
The cutterhead set must be used exclusively with upper and lower flanges mounted. The use of each cutterhead as a singular piece is not consented on machines with manual feed. The constructor declines any responsibility for improper use.

> Sistema Performance < > Performance System < Patented <

* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

ESEMPIO DI UTILIZZO DEL GRUPPO COD. TPSEM22GB3
EXAMPLES OF USE OF CUTTERHEAD SET CODE TPSEM22GB3

ESEMPIO DI PROFILO
EXAMPLE OF PROFILE

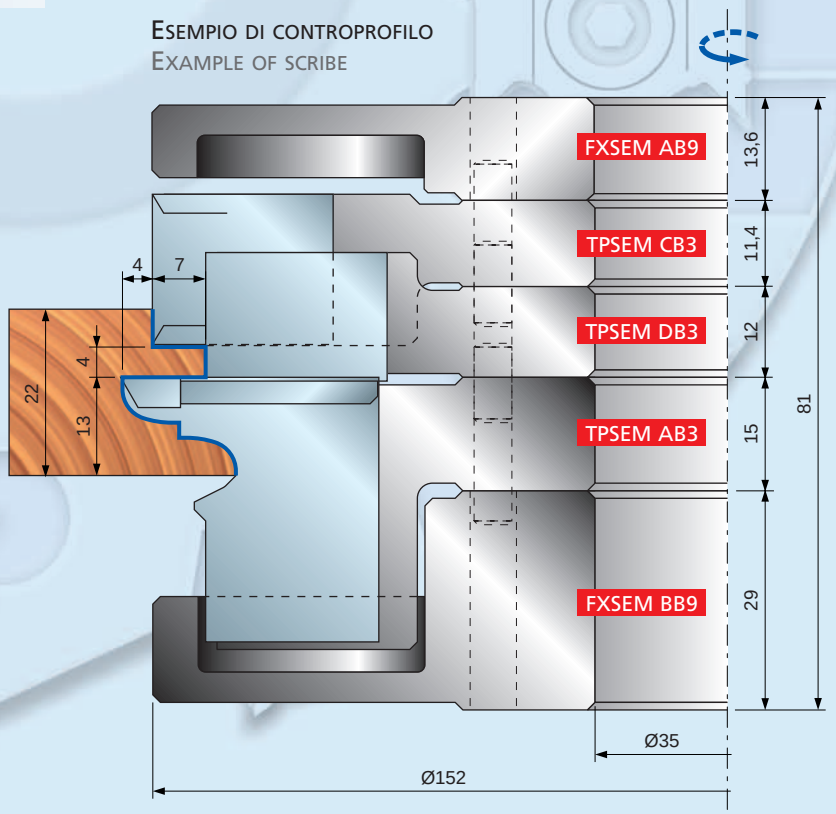


> PER ESEGUIRE LO SPESSORE LEGNO DA 22 mm, UTILIZZARE GLI UTENSILI:

> FOR 22 mm THICK WORKPIECES, USE:

TPSEM AB3 + TPSEM DB3 + TPSEM CB3 + FXSEM AB9 + FXSEM BB9

ESEMPIO DI CONTROPROFILO
EXAMPLE OF SCRIBE

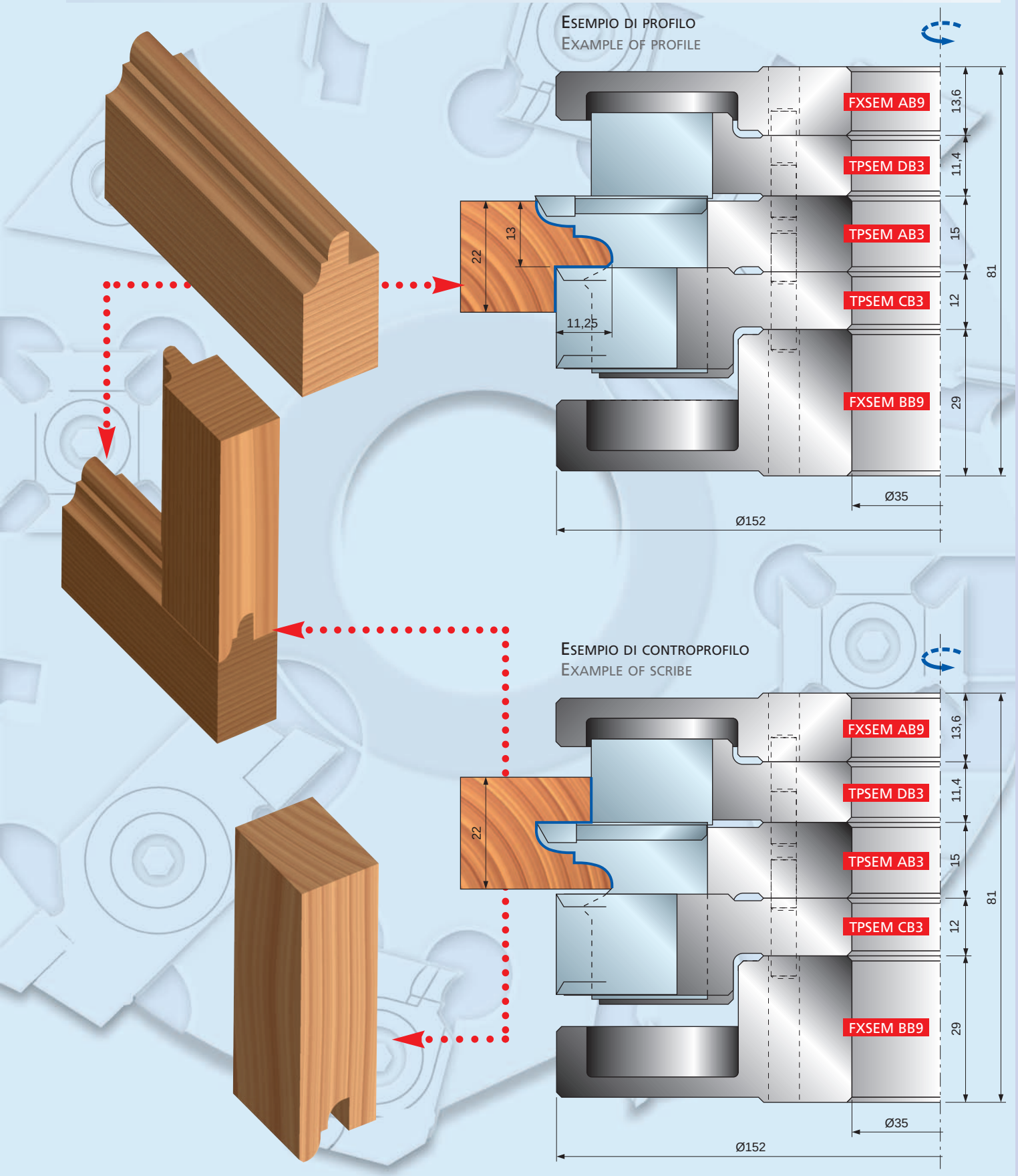


ESEMPIO DI UTILIZZO DEL GRUPPO COD. TPSEM22GB3
EXAMPLES OF USE OF CUTTERHEAD SET CODE TPSEM22GB3

ESECUZIONE ANTINA CON PROFILO VETRO.
CARRYING OUT A GLASS CABINET DOOR.

> PER ESEGUIRE LO SPESSORE LEGNO DA 22 mm, UTILIZZARE GLI UTENSILI:
> FOR 22 mm THICK WORKPIECES, USE:

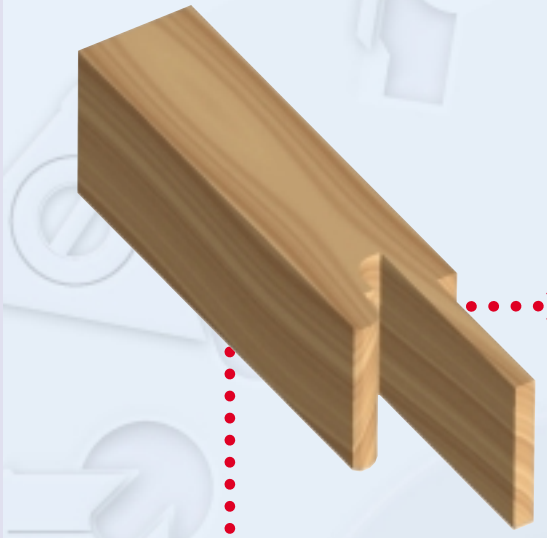
TPSEM DB3 + TPSEM AB3 + TPSEM CB3 + FXSEM AB9 + FXSEM BB9



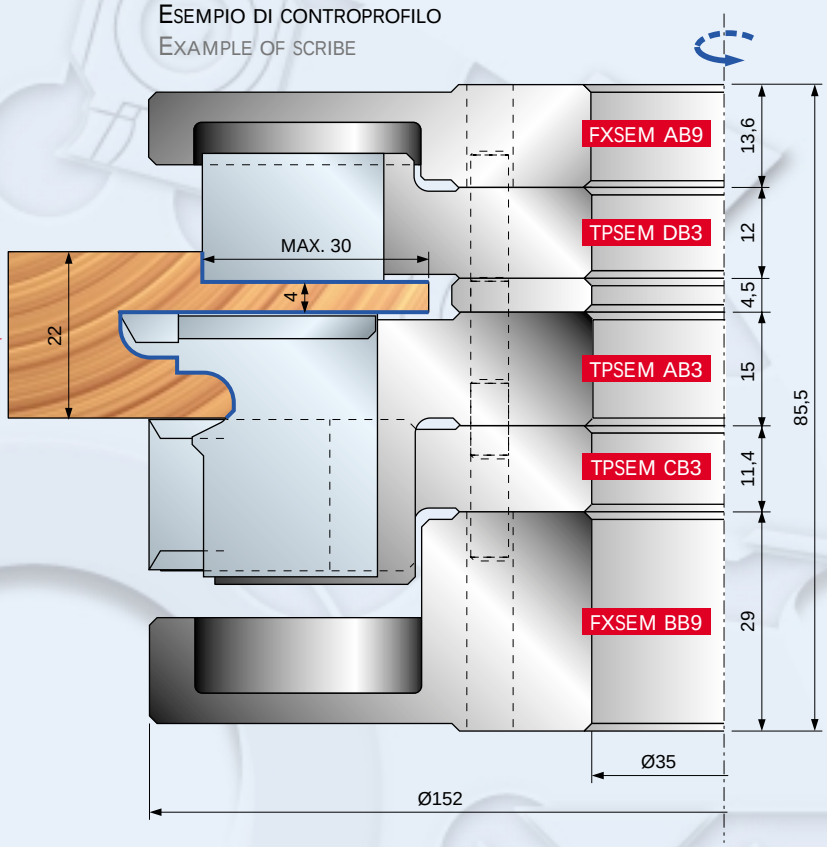
ESEMPIO DI UTILIZZO DEL GRUPPO COD. TPSEM22GB3
EXAMPLES OF USE OF CUTTERHEAD SET CODE TPSEM22GB3

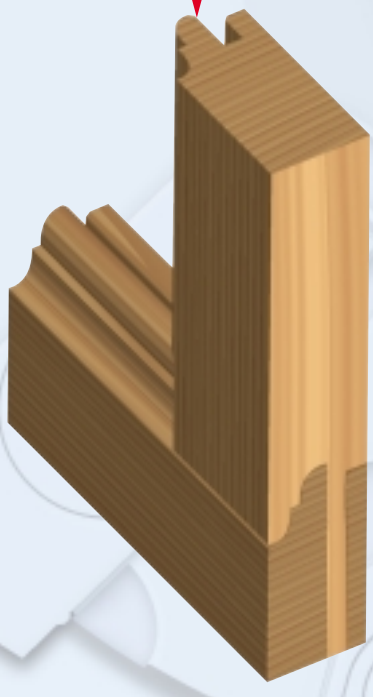
ESECUZIONE ANTINA CON SPINA APERTA. > PER ESEGUIRE LO SPESSORE LEGNO DA 22 mm, UTILIZZARE GLI UTENSILI:
CARRYING OUT A CABINET DOOR WITH LONG SQUARE TENON SHOULDER. > FOR 22 mm THICK WORKPIECES, USE:

TPSEM AB3 + TPSEM DB3 + TPSEM CB3 + FXSEM AB9 + FXSEM BB9



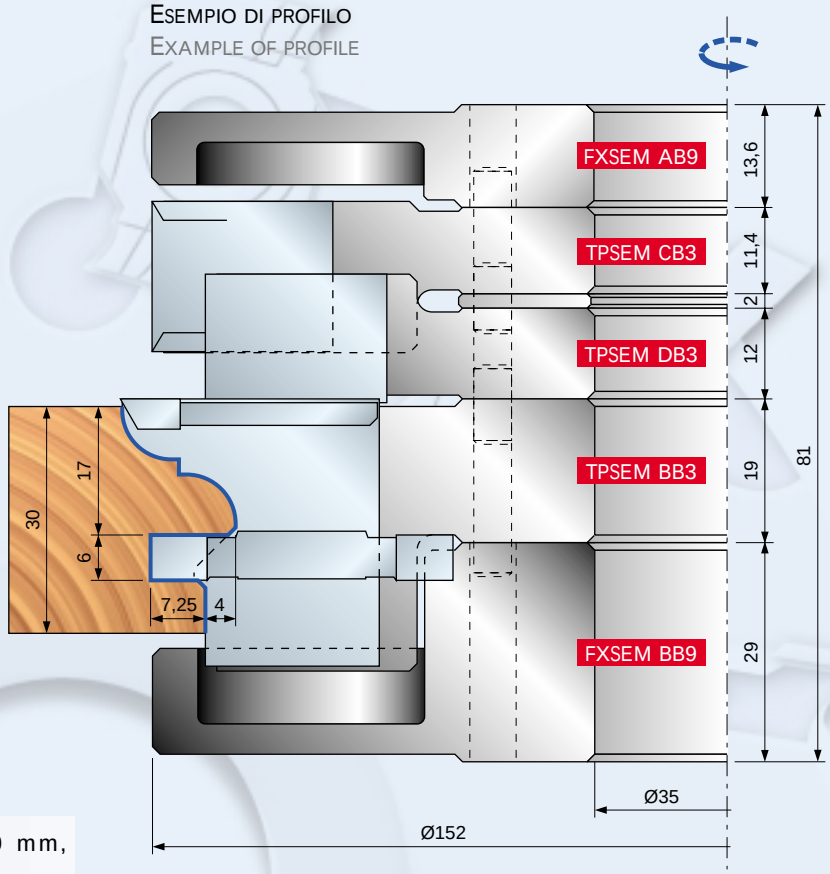
ESEMPIO DI CONTROPROFILO
EXAMPLE OF SCRIBE





ESEMPIO DI UTILIZZO DEL GRUPPO COD. TPSEM30GB3
EXAMPLES OF USE OF CUTTERHEAD SET CODE TPSEM30GB3

ESEMPIO DI PROFILO
EXAMPLE OF PROFILE

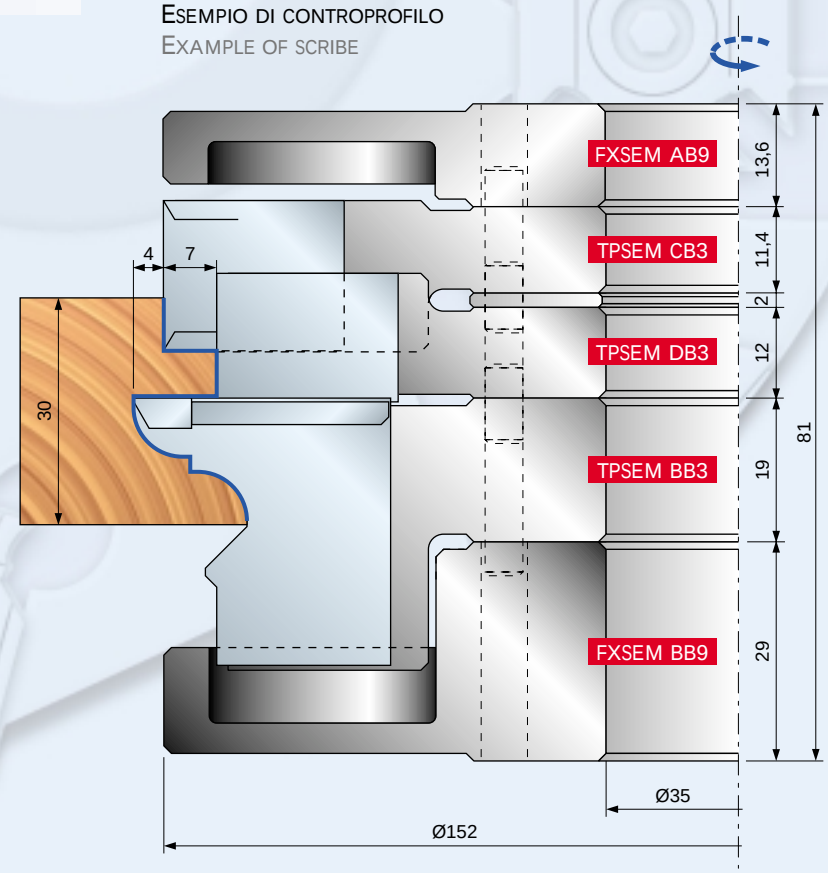


> PER ESEGUIRE LO SPESSORE LEGNO DA 30 mm, UTILIZZARE GLI UTENSILI:

> FOR 30 mm THICK WORKPIECES, USE:

TPSEM BB3 + TPSEM DB3 + TPSEM CB3 + FXSEM AB9 + FXSEM BB9

ESEMPIO DI CONTROPROFILO
EXAMPLE OF SCRIBE



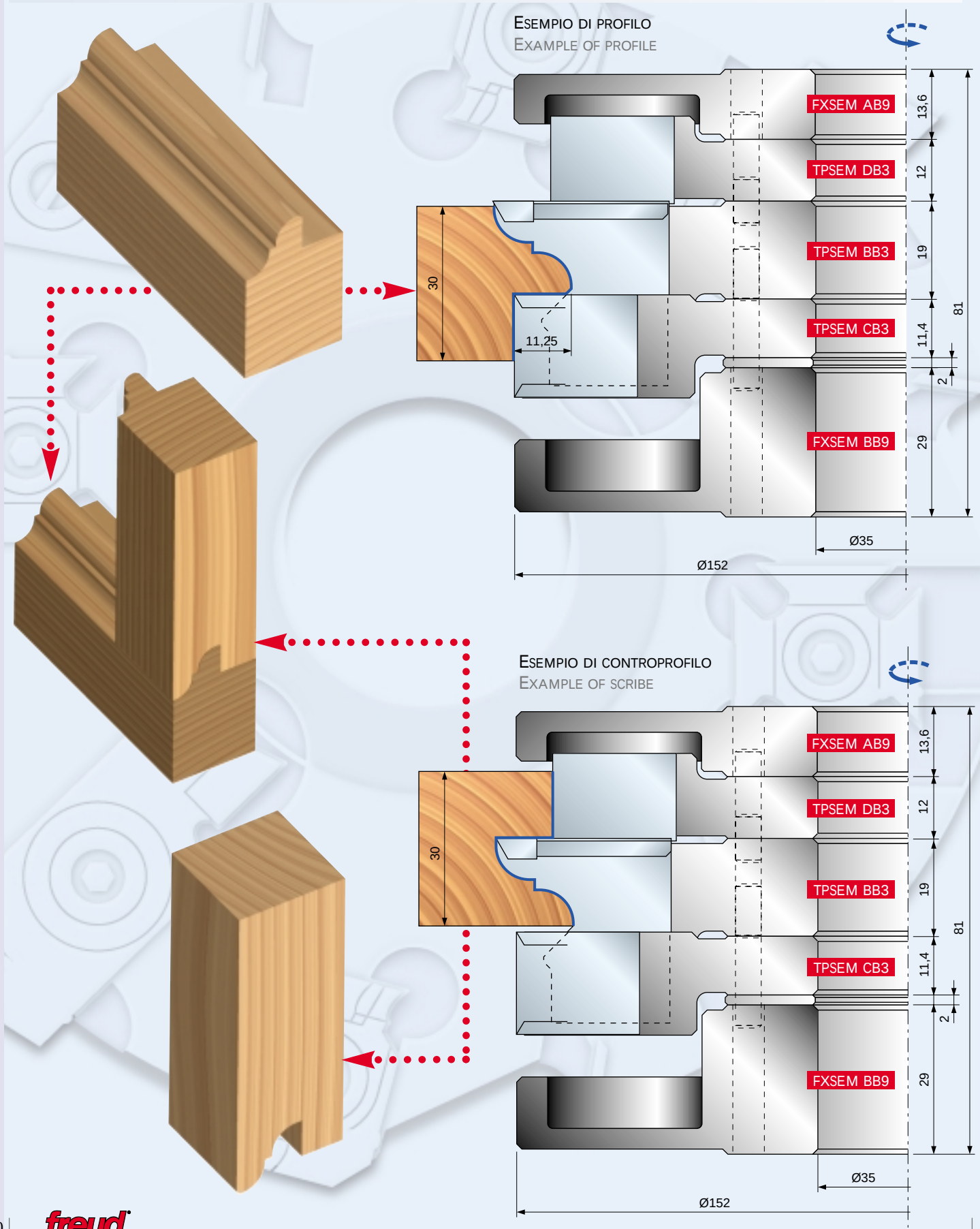
> SISTEMA PERFORMANCE SYSTEM PATENTED <

ESEMPIO DI UTILIZZO DEL GRUPPO COD. TPSEM30GB3
EXAMPLES OF USE OF CUTTERHEAD SET CODE TPSEM30GB3

ESECUZIONE ANTINA CON PROFILO VETRO.
CARRYING OUT A GLASS CABINET DOOR.

> PER ESEGUIRE LO SPESSORE LEGNO DA 30 mm, UTILIZZARE GLI UTENSILI:
> FOR 30 mm THICK WORKPIECES, USE:

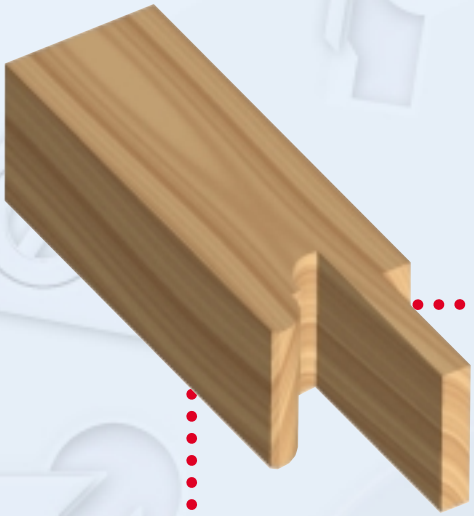
TPSEM DB3 + TPSEM BB3 + TPSEM CB3 + FXSEM AB9 + FXSEM BB9



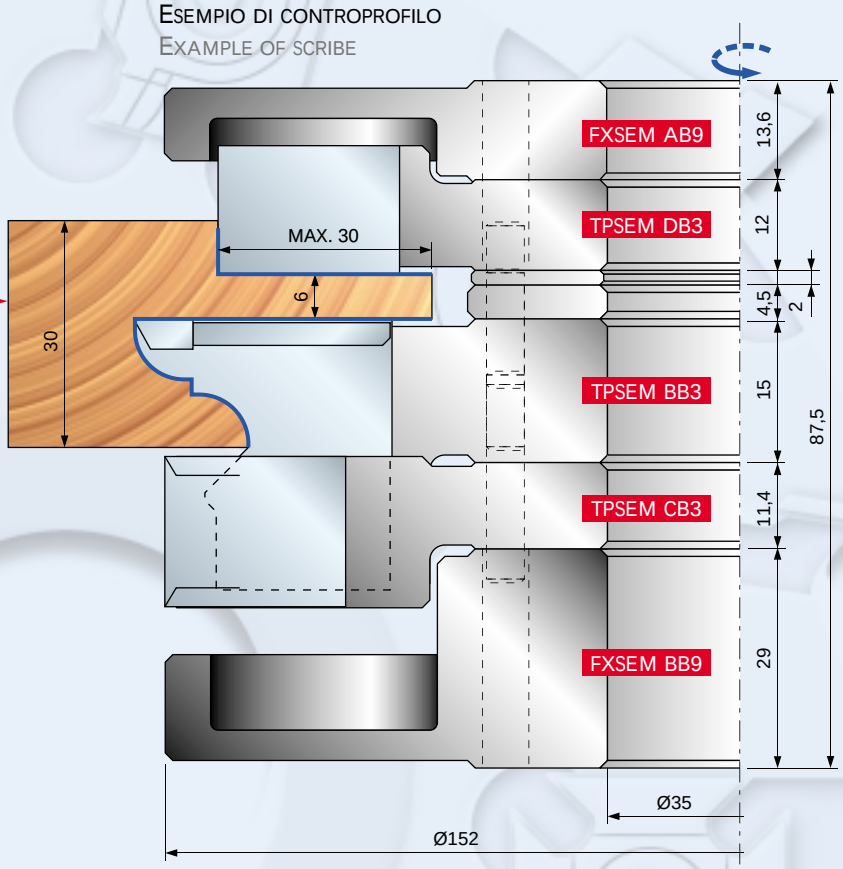
ESEMPIO DI UTILIZZO DEL GRUPPO COD. TPSEM30GB3
EXAMPLES OF USE OF CUTTERHEAD SET CODE TPSEM30GB3

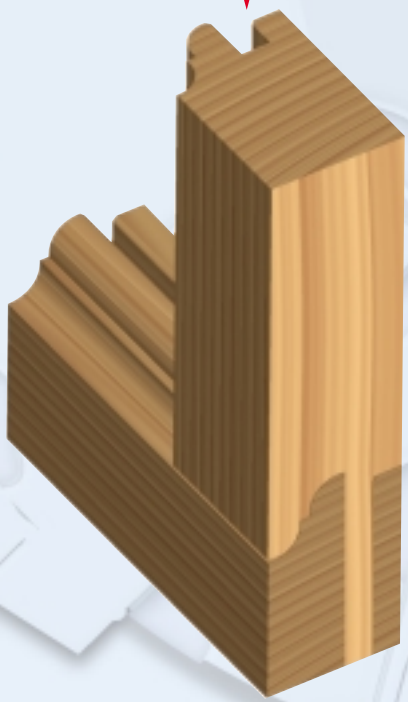
ESECUZIONE ANTINA CON SPINA APERTA. > PER ESEGUIRE LO SPESSORE LEGNO DA 30 mm, UTILIZZARE GLI UTENSILI:
CARRYING OUT A CABINET DOOR WITH LONG SQUARE TENON SHOULDER. > FOR 30 mm THICK WORKPIECES, USE:

TPSEM BB3 + TPSEM DB3 + TPSEM CB3 + FXSEM AB9 + FXSEM BB9



ESEMPIO DI CONTROPROFILO
EXAMPLE OF SCRIBE

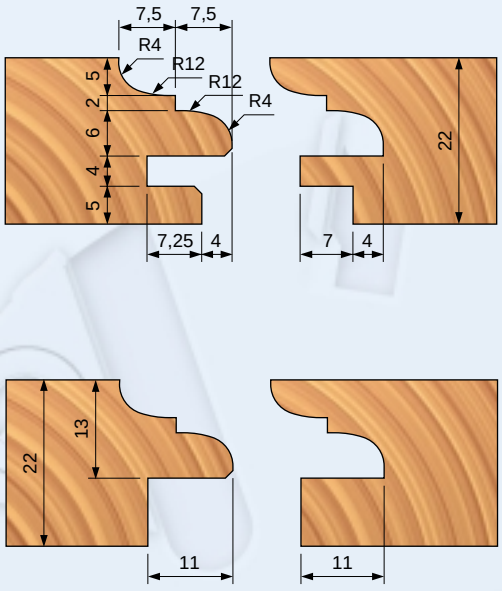




> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

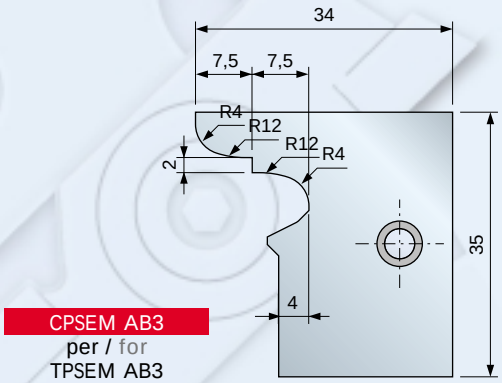
CPSEM AB3

COLTELLI PER TPSEM AB3 (SPESSORE LEGNO: 22 mm)
KNIVES FOR TPSEM AB3 (WOOD THICKNESS: 22 mm)



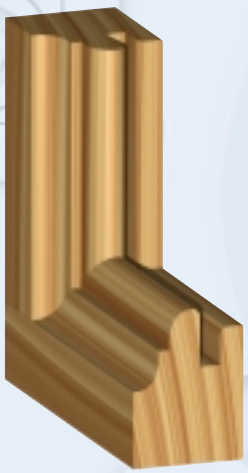
> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

COD.	DIMENSIONI · DIMENSIONS mm	PEZZI · PIECES
TPSEM 22GB3	160 x 35 (50)	1
CPSEM AB3	35 x 34 x 3	2

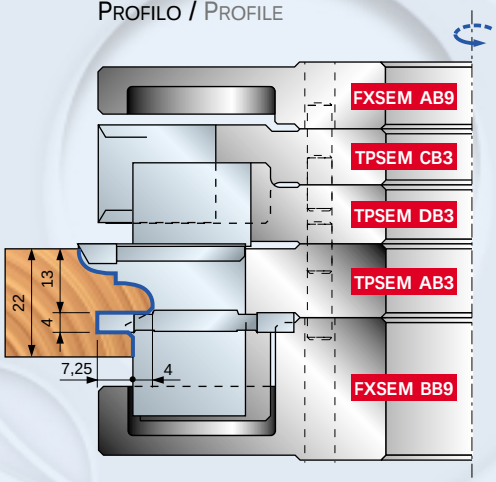


CPSEM AB3
per / for
TPSEM AB3

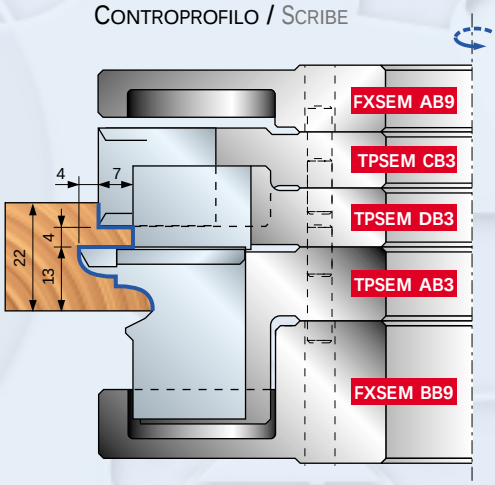
ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE



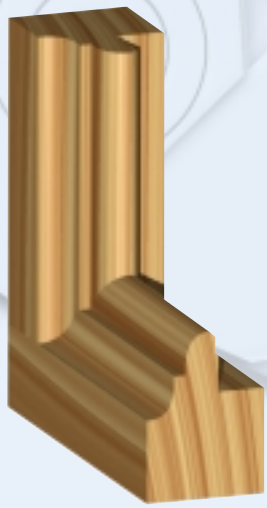
PROFILO / PROFILE



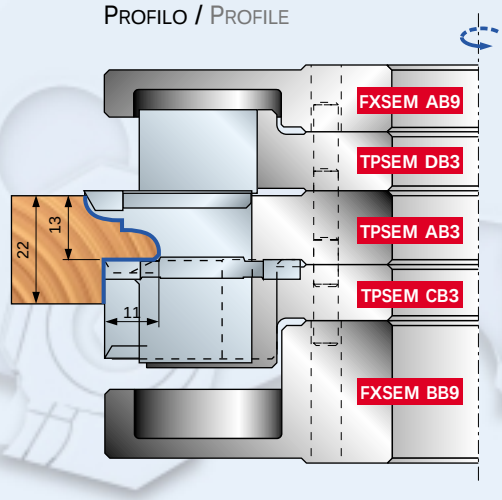
CONTROPROFILO / SCRIBE



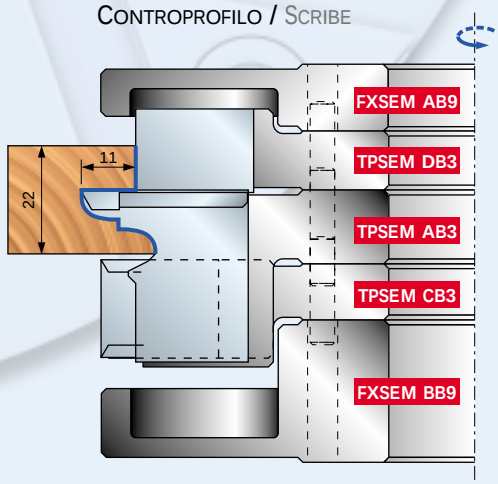
ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE



PROFILO / PROFILE

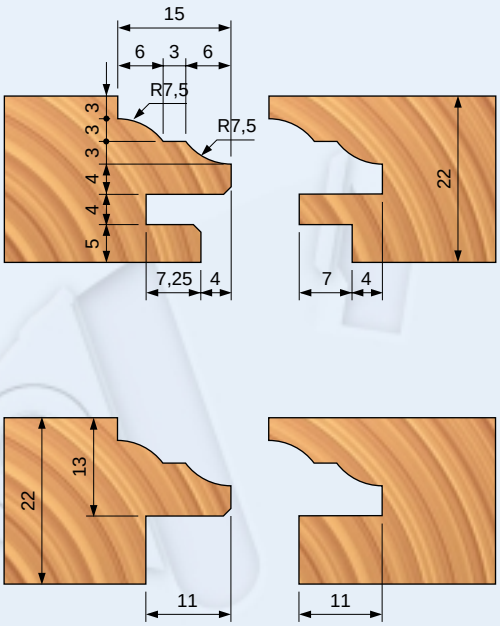


CONTROPROFILO / SCRIBE



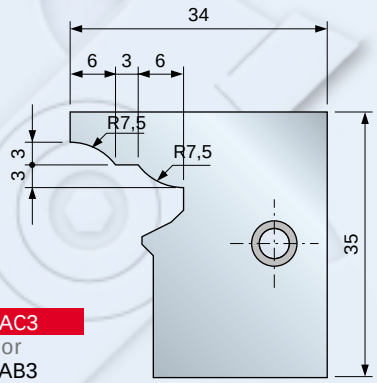
CPSEM AC3

Coltelli per TPSEM AB3 (spessore legno: 22 mm)
Knives for TPSEM AB3 (wood thickness: 22 mm)



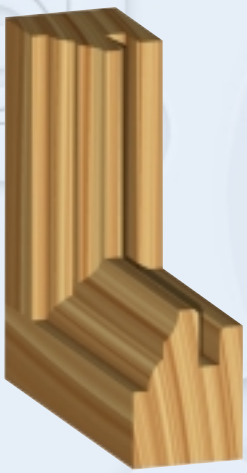
> Esempio di ordinazione per l'esecuzione dei profili indicati
> Order example for the profiles shown

Cod.	Dimensioni - Dimensions mm	Pezzi - Pieces
TPSEM 22GB3	160 x 35 (50)	1
CPSEM AC3	35 x 34 x 3	2

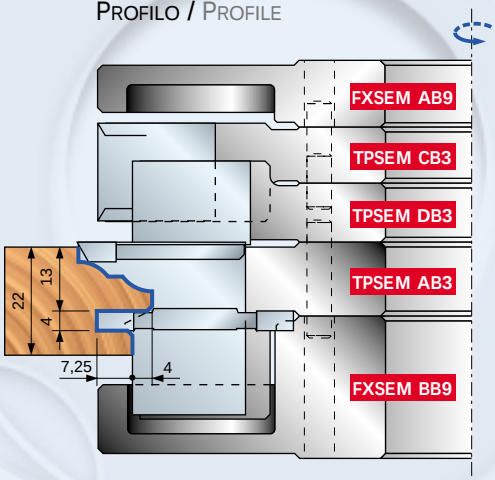


CPSEM AC3
per / for
TPSEM AB3

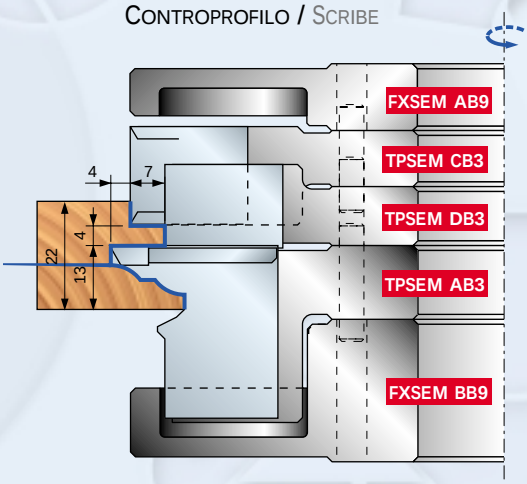
Esecuzione con incastro
Carrying out a groove



Profilo / Profile

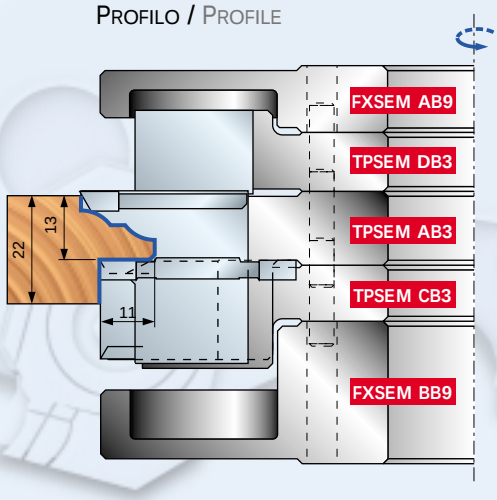


Controprofilo / Scribe

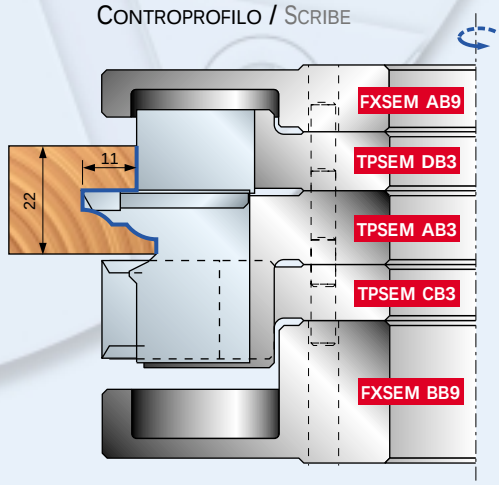


Esecuzione con battuta
Carrying out a rebate

Profilo / Profile

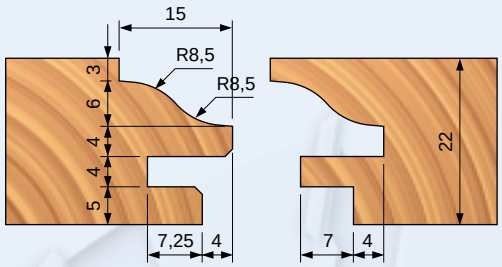


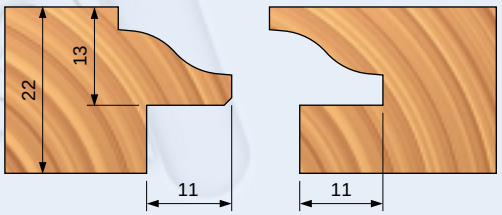
Controprofilo / Scribe



CPSEM AD3

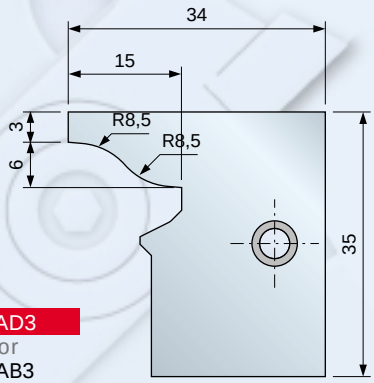
COLTELLI PER TPSEM AB3 (SPESSORE LEGNO: 22 mm)
KNIVES FOR TPSEM AB3 (WOOD THICKNESS: 22 mm)





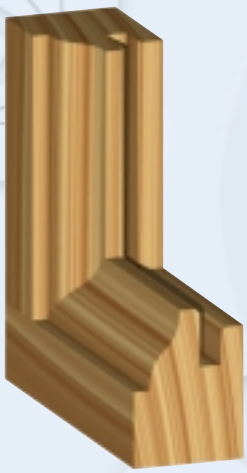
> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

COD.	DIMENSIONI • DIMENSIONS mm	PEZZI • PIECES
TPSEM22GB3	160 x 35 (50)	1
CPSEM AD3	35 x 34 x 3	2

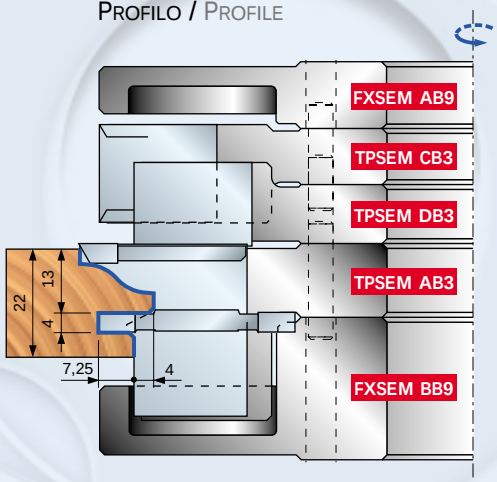


CPSEM AD3
per / for
TPSEM AB3

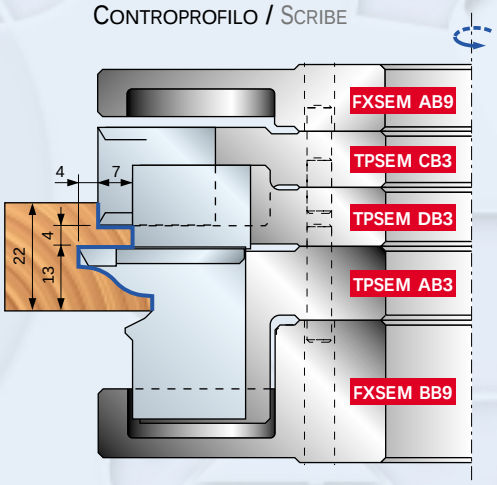
ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE



PROFILO / PROFILE

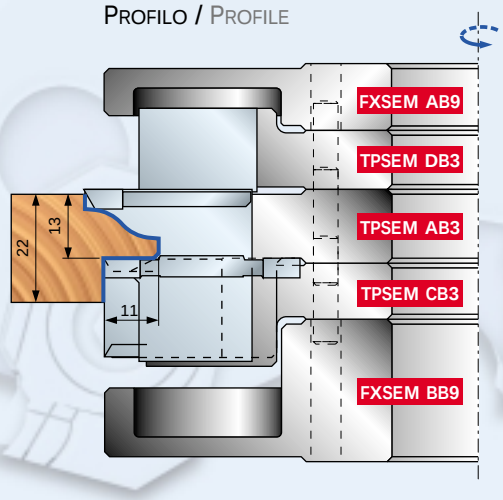


CONTROPROFILO / SCRIBE

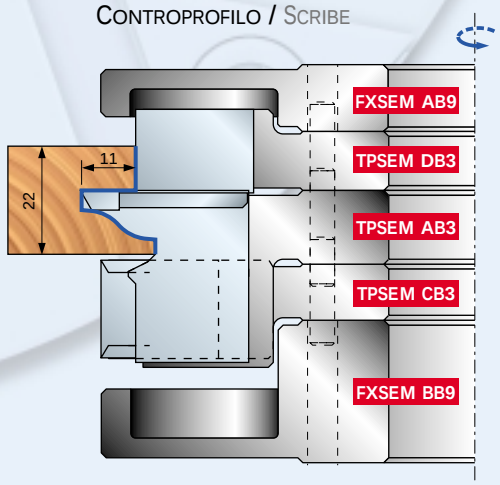


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE

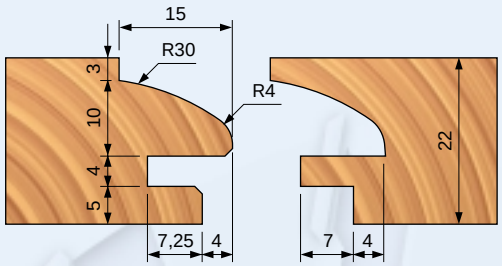


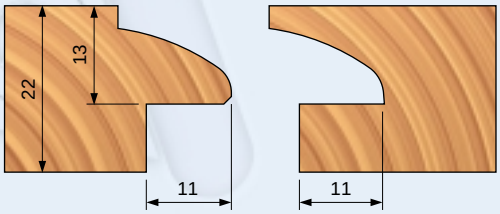
CONTROPROFILO / SCRIBE



CPSEM AF3
CPSEM AE3

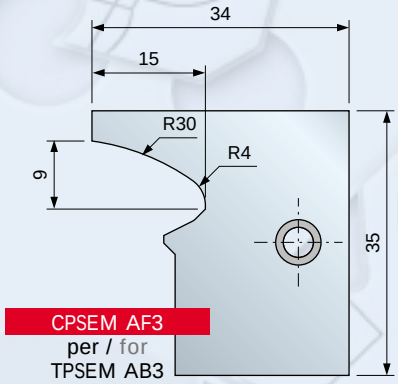
Coltelli per TPSEM AB3 (spessore legno: 22 mm)
Knives for TPSEM AB3 (wood thickness: 22 mm)

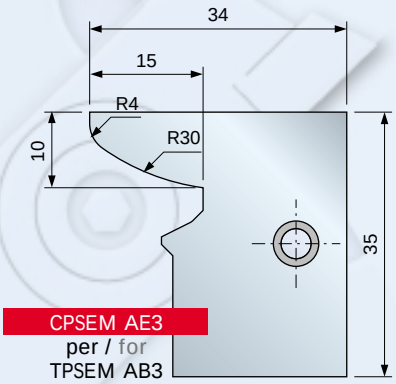




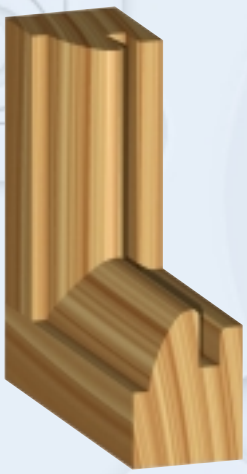
> Esempio di ordinazione per l'esecuzione dei profili indicati
> Order example for the profiles shown

Cod.	Dimensioni - Dimensions mm	Pezzi - Pieces
TPSEM 22GB3	160 x 35 (50)	1
CPSEM AE3	35 x 34 x 3	2
CPSEM AF3	35 x 34 x 3	2

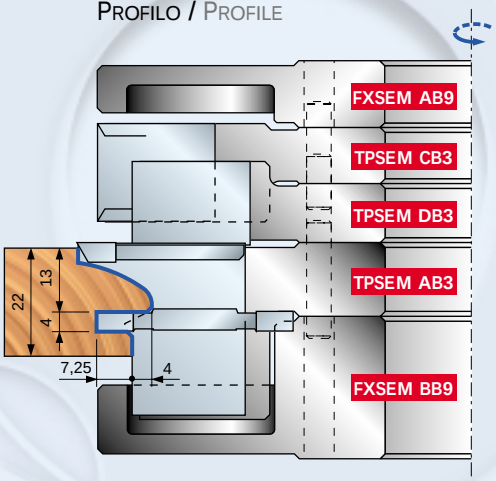




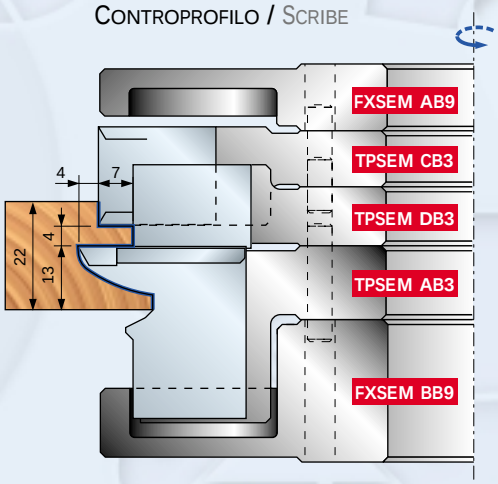
ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE



Profilo / Profile

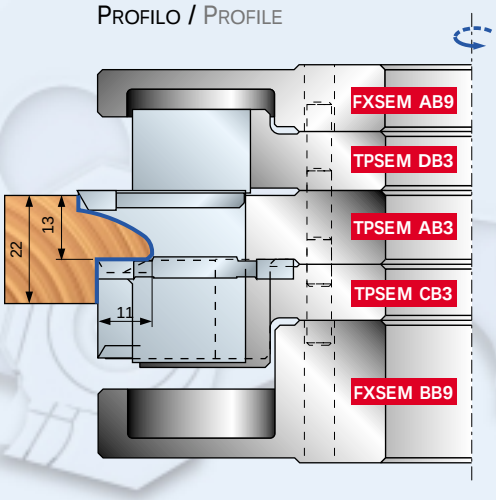


Controprofilo / Scribe

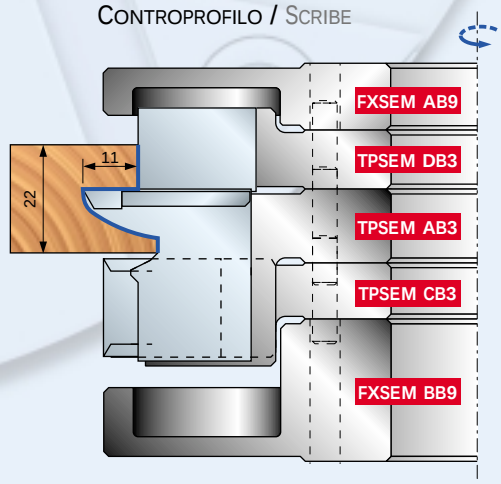


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

Profilo / Profile



Controprofilo / Scribe

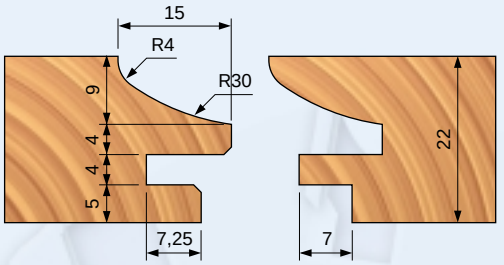


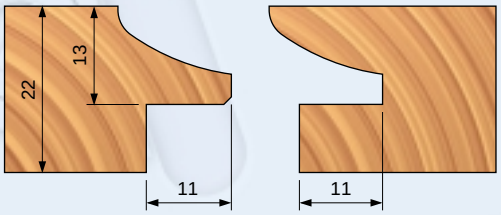
CPSEM AE3
CPSEM AF3

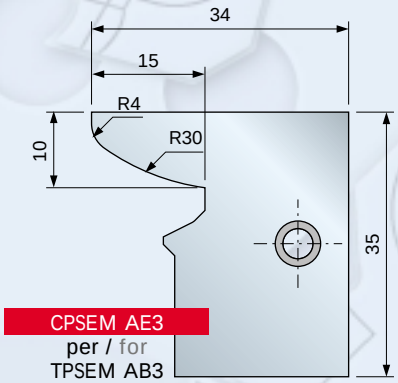
COLTELLI PER TPSEM AB3 (SPESSORE LEGNO: 22 mm)
KNIVES FOR TPSEM AB3 (WOOD THICKNESS: 22 mm)

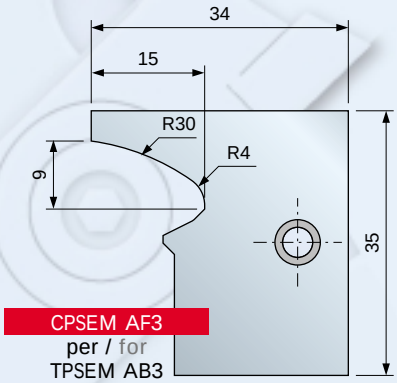
> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

COD.	DIMENSIONI - DIMENSIONS mm	PEZZI - PIECES
TPSEM22GB3	160 x 35 (50)	1
CPSEM AE3	35 x 34 x 3	2
CPSEM AF3	35 x 34 x 3	2

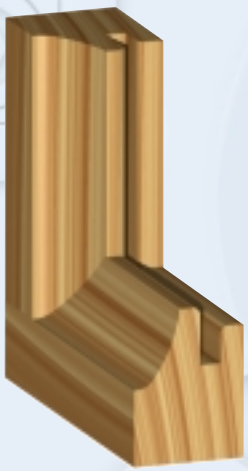




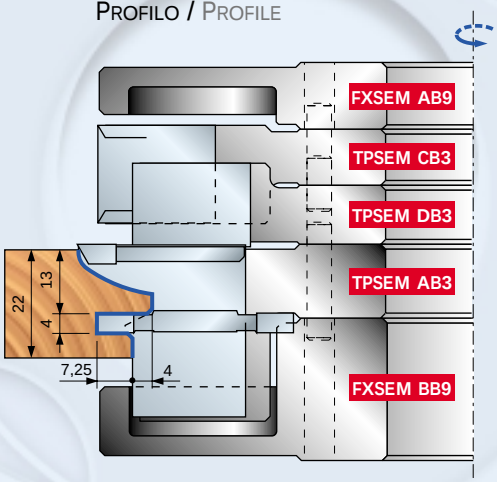




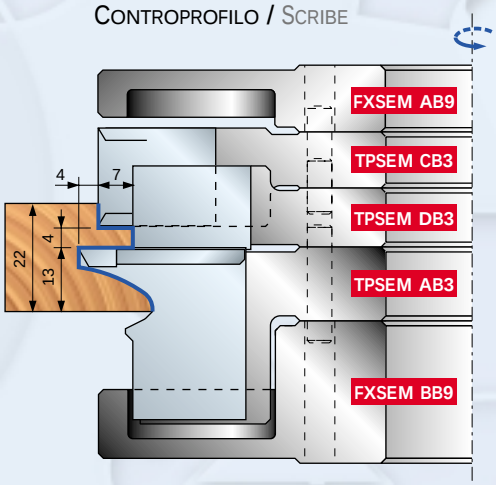
ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE



PROFILO / PROFILE

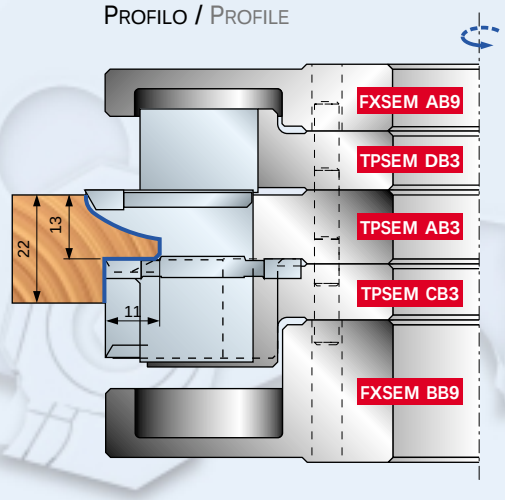


CONTROPROFILO / SCRIBE

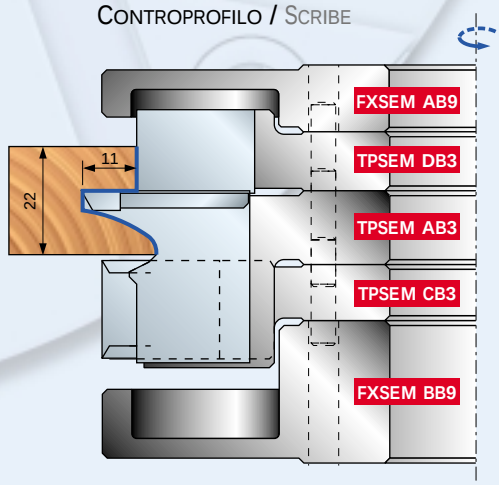


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE

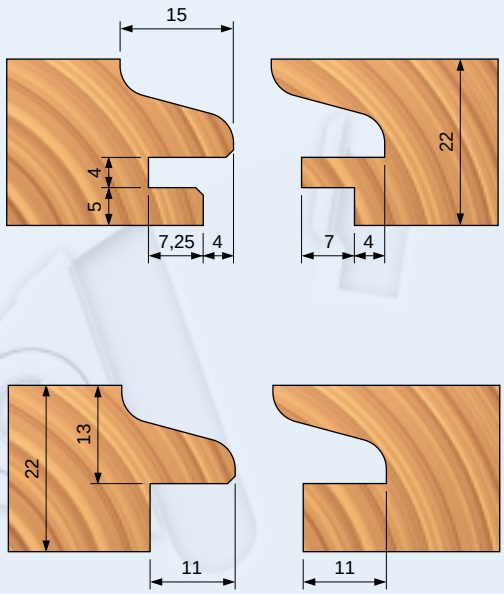


CONTROPROFILO / SCRIBE



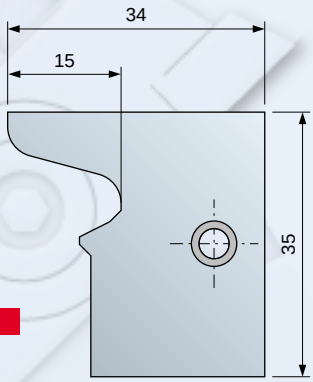
CPSEM AG3

Coltelli per TPSEM AB3 (spessore legno: 22 mm)
Knives for TPSEM AB3 (wood thickness: 22 mm)



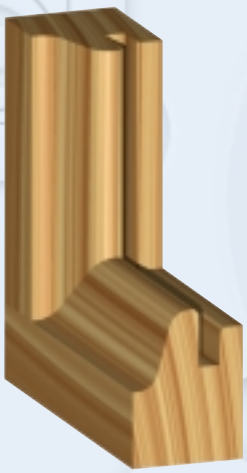
> Esempio di ordinazione per l'esecuzione dei profili indicati
> Order example for the profiles shown

Cod.	Dimensioni - Dimensions mm	Pezzi - Pieces
TPSEM 22GB3	160 x 35 (50)	1
CPSEM AG3	35 x 34 x 3	2

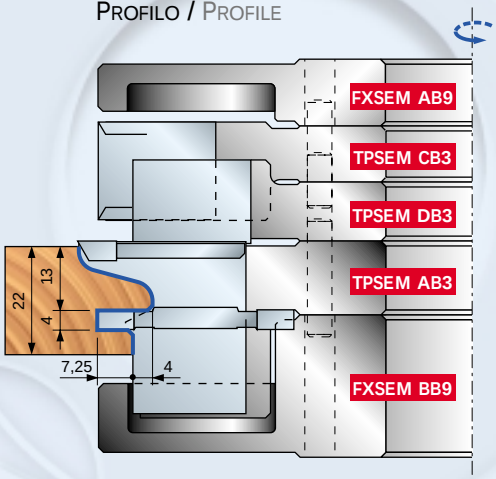


CPSEM AG3
per / for
TPSEM AB3

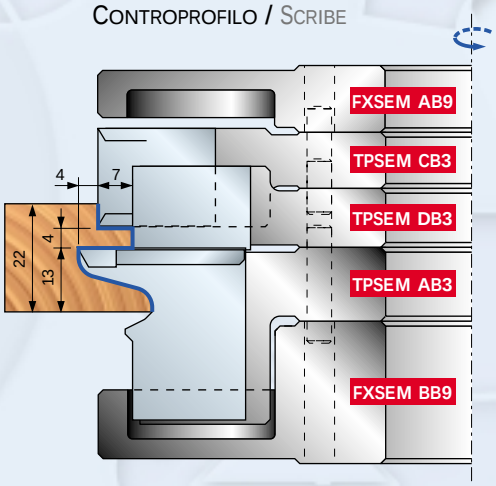
Esecuzione con incastro
Carrying out a groove



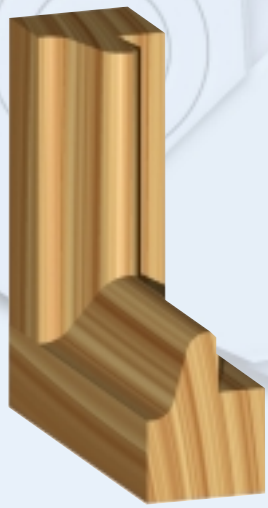
Profilo / Profile



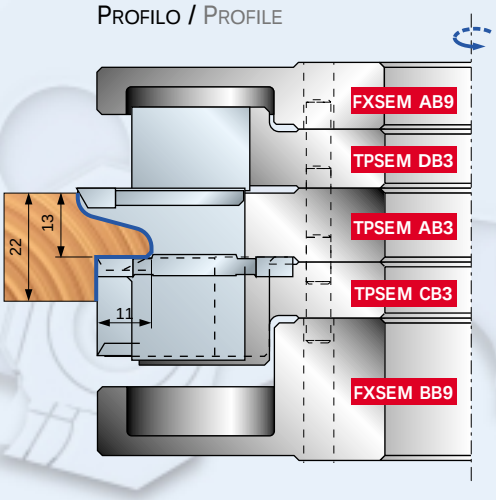
Controprofilo / Scribe



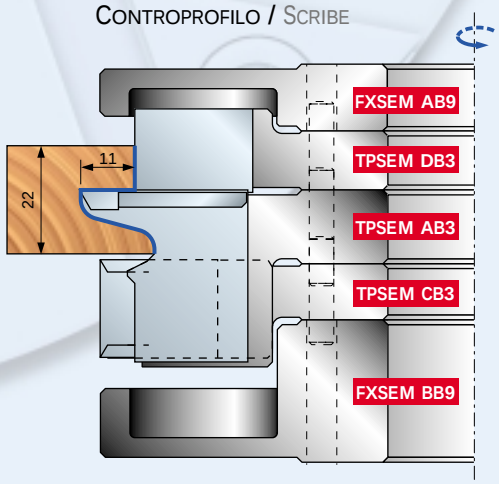
Esecuzione con battuta
Carrying out a rebate



Profilo / Profile

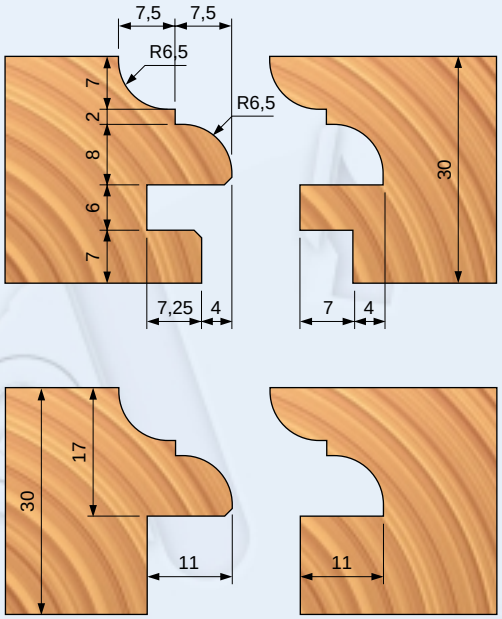


Controprofilo / Scribe



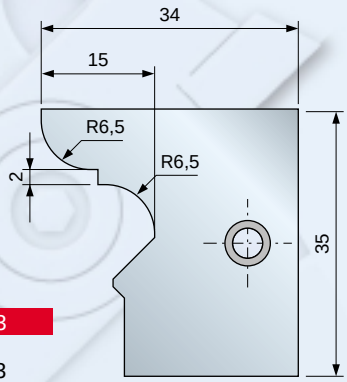
CPSEM BB3

COLTELLI PER TPSEM BB3 (SPESSORE LEGNO: 30 mm)
KNIVES FOR TPSEM BB3 (WOOD THICKNESS: 30 mm)



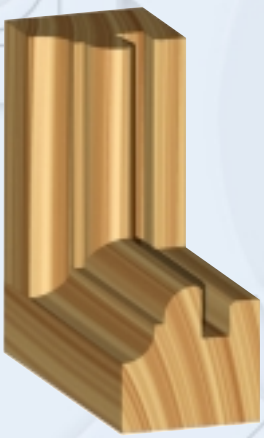
> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

COD.	DIMENSIONI · DIMENSIONS mm	PEZZI · PIECES
TPSEM30GB3	160 x 35 (50)	1
CPSEM BB3	35 x 34 x 3	2

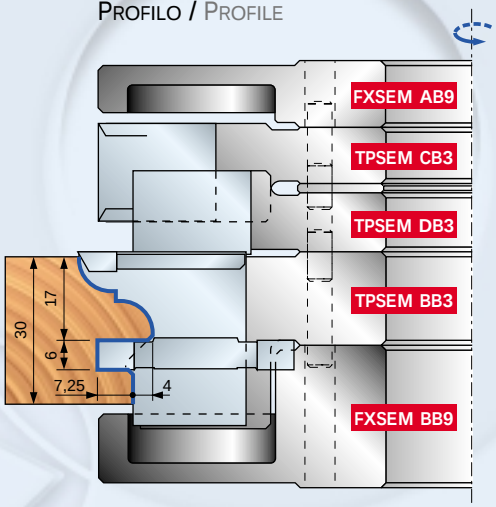


CPSEM BB3
per / for
TPSEM BB3

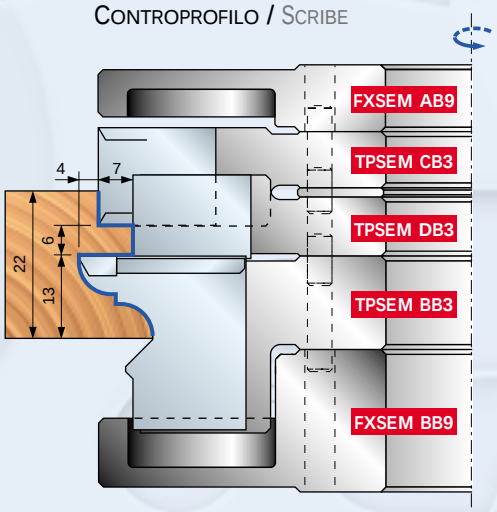
ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE



PROFILO / PROFILE

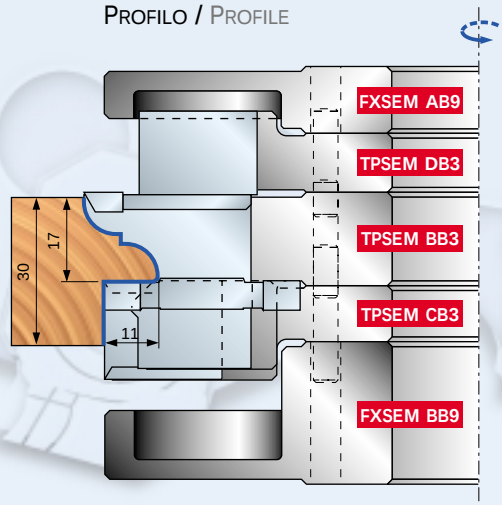


CONTROPROFILO / SCRIBE

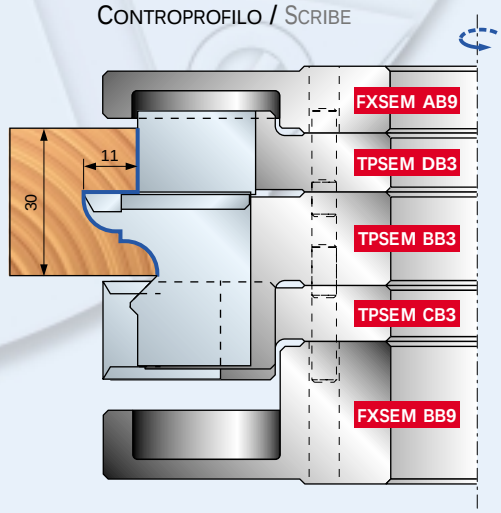


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE

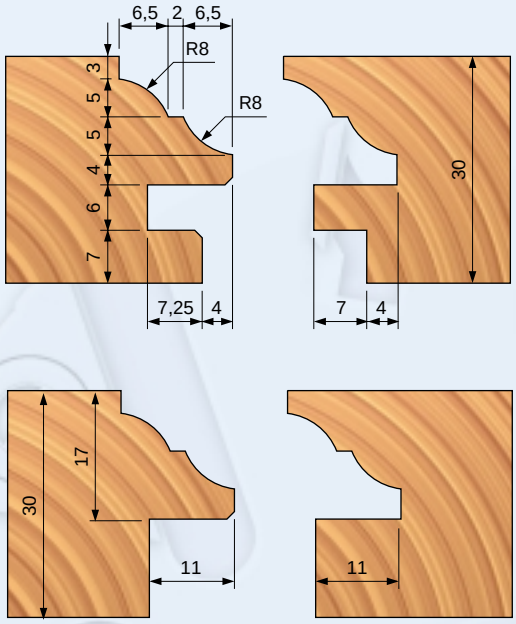


CONTROPROFILO / SCRIBE



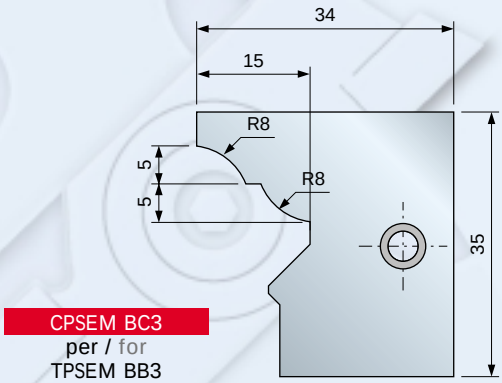
CPSEM BC3

COLTELLI PER TPSEM BB3 (SPESSORE LEGNO: 30 mm)
KNIVES FOR TPSEM BB3 (WOOD THICKNESS: 30 mm)



> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

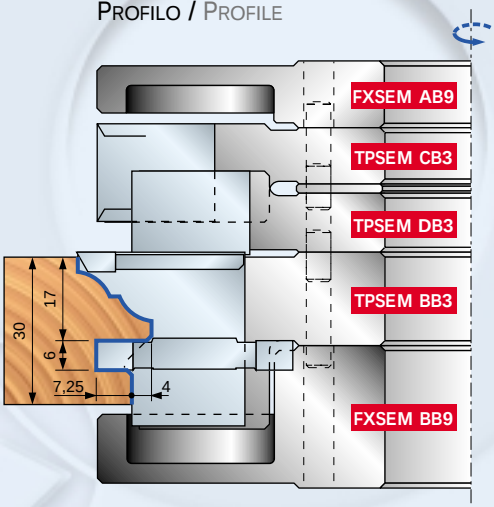
COD.	DIMENSIONI • DIMENSIONS mm	PEZZI • PIECES
TPSEM 30GB3	160 x 35 (50)	1
CPSEM BC3	35 x 34 x 3	2



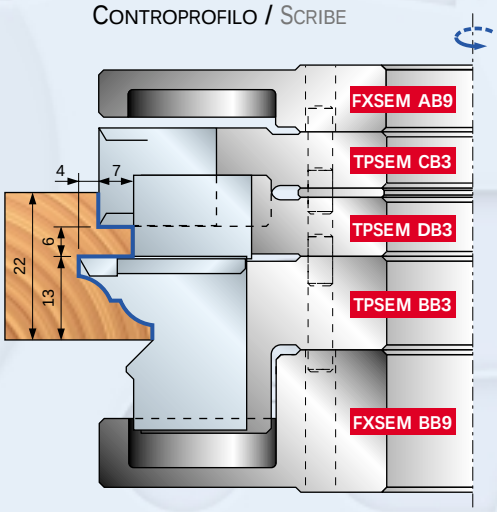
CPSEM BC3
per / for
TPSEM BB3

ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE

PROFILO / PROFILE

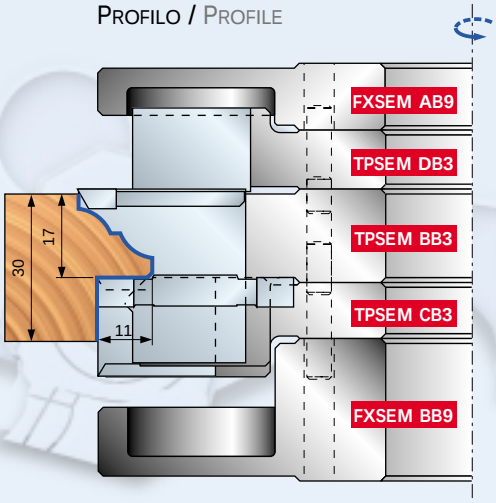


CONTROPROFILO / SCRIBE

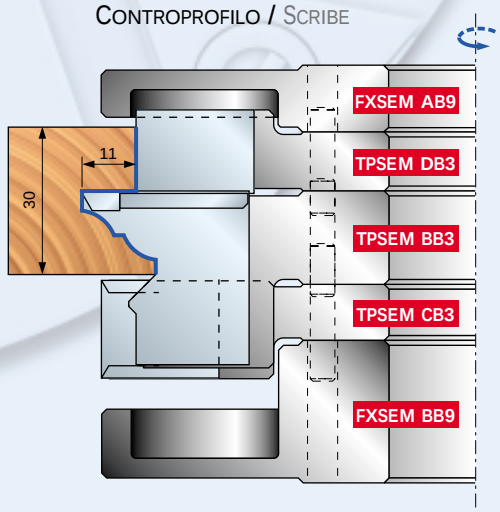


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE



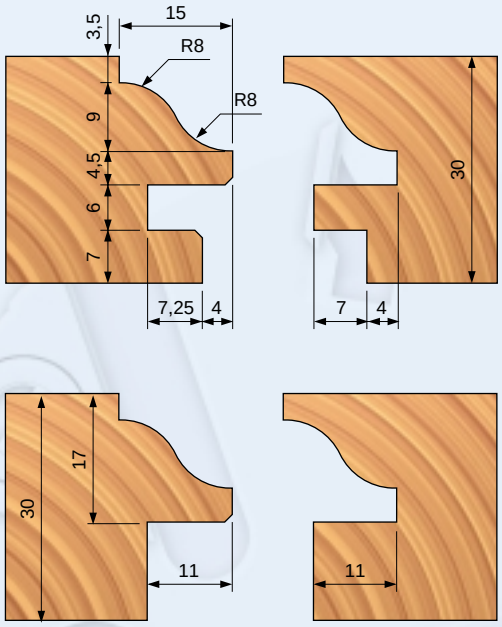
CONTROPROFILO / SCRIBE



> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

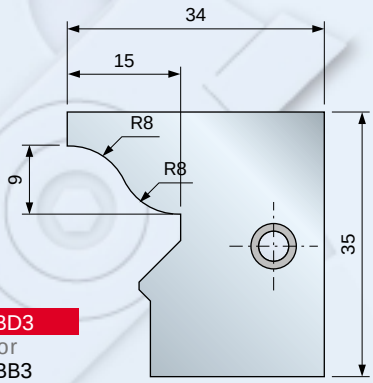
CPSEM BD3

COLTELLI PER TPSEM BB3 (SPESSORE LEGNO: 30 mm)
KNIVES FOR TPSEM BB3 (WOOD THICKNESS: 30 mm)



> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

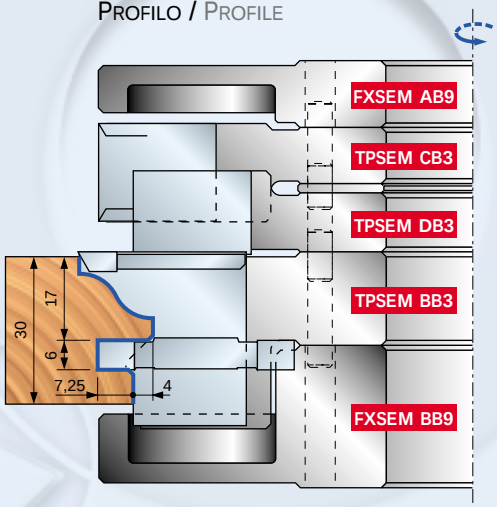
COD.	DIMENSIONI • DIMENSIONS mm	PEZZI • PIECES
TPSEM30GB3	160 x 35 (50)	1
CPSEM BD3	35 x 34 x 3	2



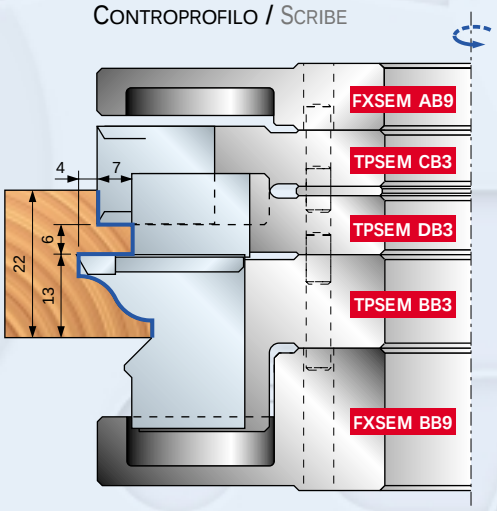
CPSEM BD3
per / for
TPSEM BB3

ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE

PROFILO / PROFILE

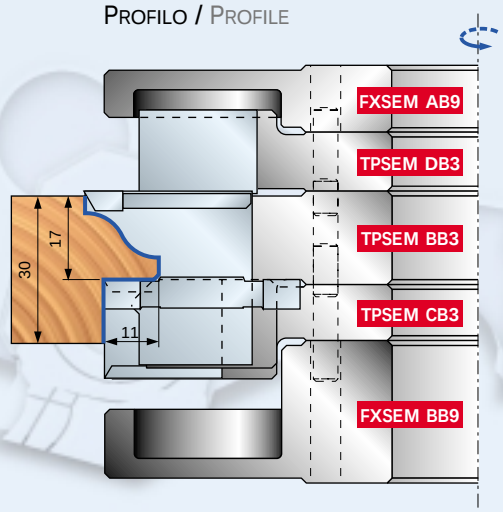


CONTROPROFILO / SCRIBE

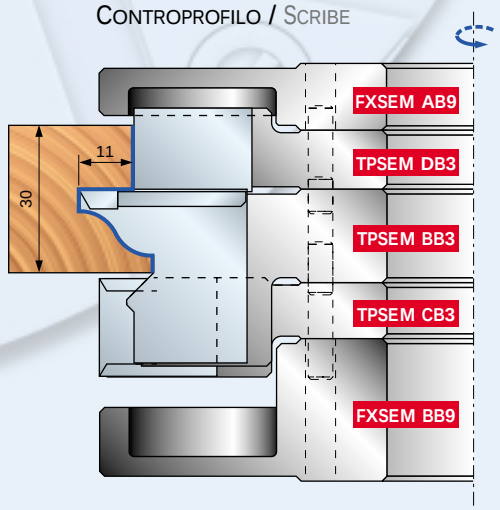


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE

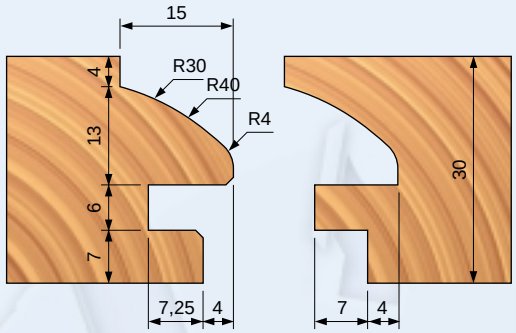


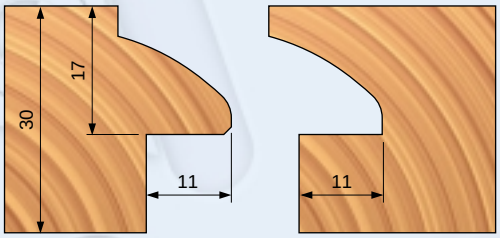
CONTROPROFILO / SCRIBE



CPSEM BF3
CPSEM BE3

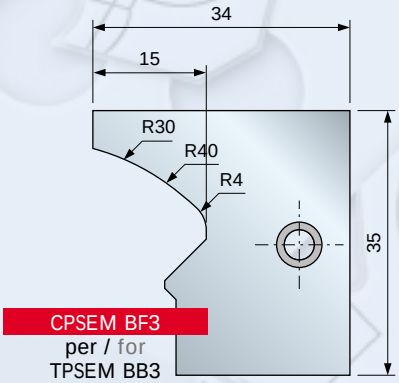
COLTELLI PER TPSEM BB3 (SPESSORE LEGNO: 30 mm)
KNIVES FOR TPSEM BB3 (WOOD THICKNESS: 30 mm)

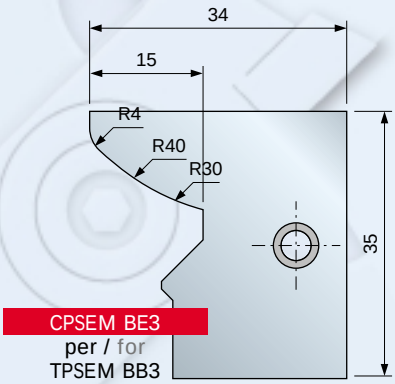




> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

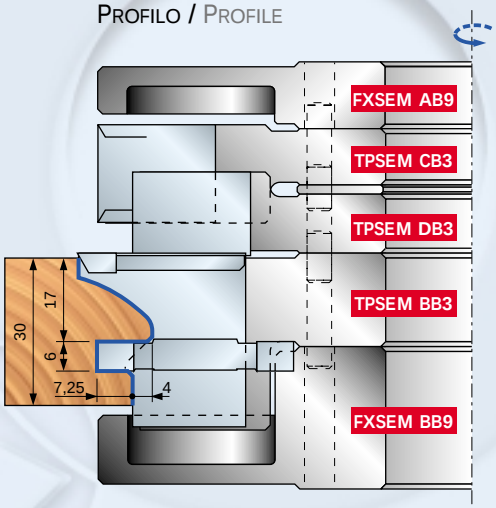
COD.	DIMENSIONI • DIMENSIONS mm	PEZZI • PIECES
TPSEM 30GB3	160 x 35 (50)	1
CPSEM BE3	35 x 34 x 3	2
CPSEM BF3	35 x 34 x 3	2



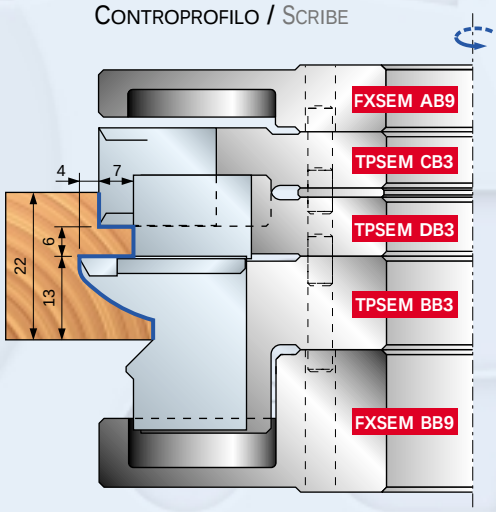


ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE

PROFILO / PROFILE

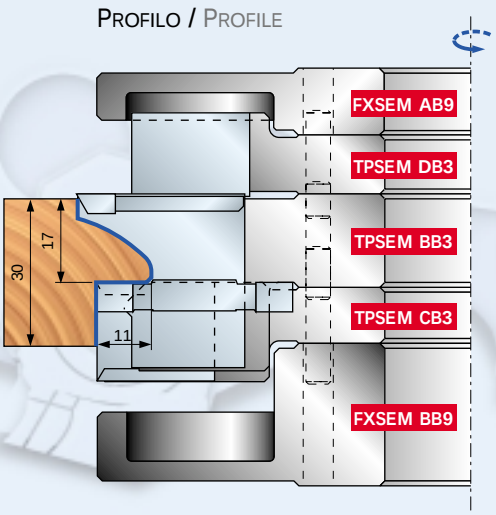


CONTROPROFILO / SCRIBE

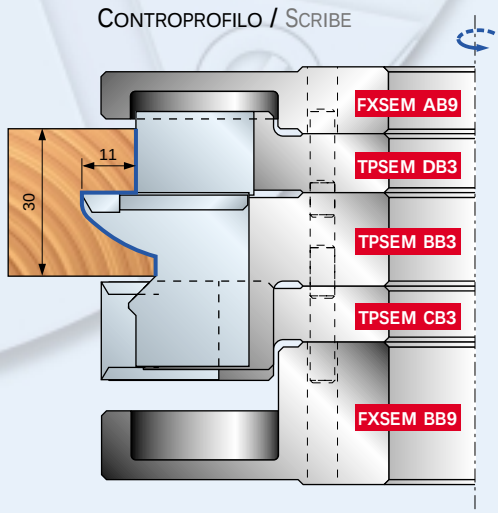


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE



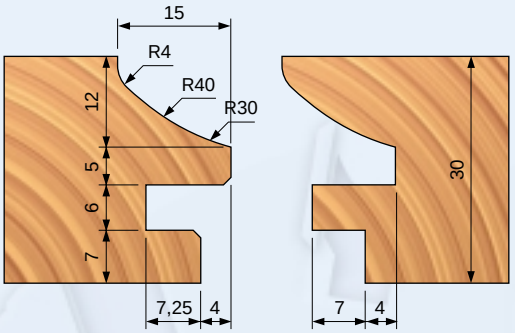
CONTROPROFILO / SCRIBE

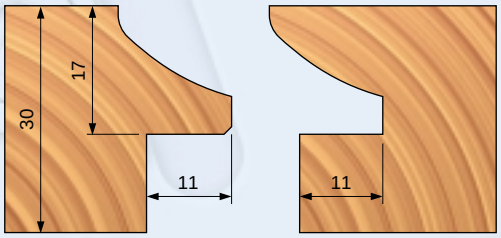


> SISTEMA PERFORMANCE SYSTEM PATENTED <

CPSEM BE3
CPSEM BF3

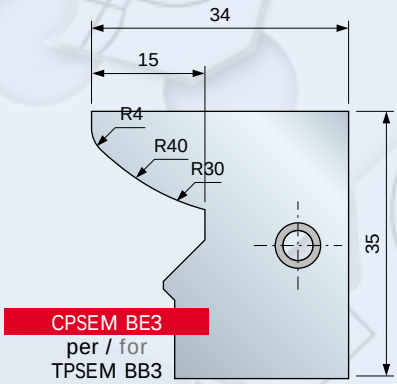
COLTELLI PER TPSEM BB3 (SPESSORE LEGNO: 30 mm)
KNIVES FOR TPSEM BB3 (WOOD THICKNESS: 30 mm)

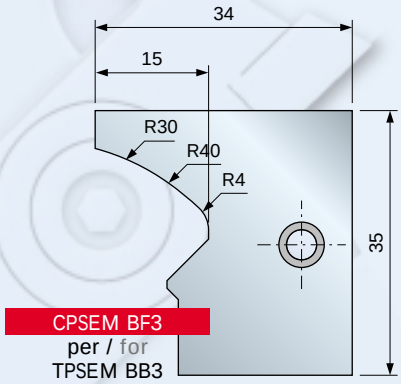




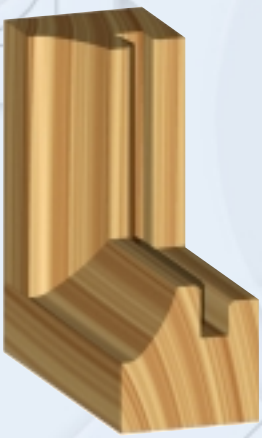
> ESEMPIO DI ORDINAZIONE PER L'ESECUZIONE DEI PROFILI INDICATI
> ORDER EXAMPLE FOR THE PROFILES SHOWN

COD.	DIMENSIONI · DIMENSIONS mm	PEZZI · PIECES
TPSEM30GB3	160 x 35 (50)	1
CPSEM BE3	35 x 34 x 3	2
CPSEM BF3	35 x 34 x 3	2

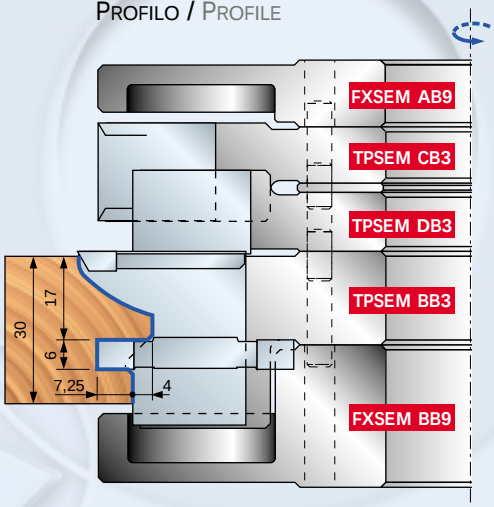




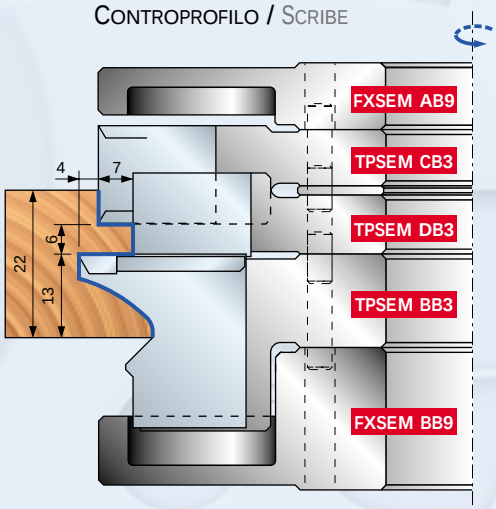
ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE



PROFILO / PROFILE

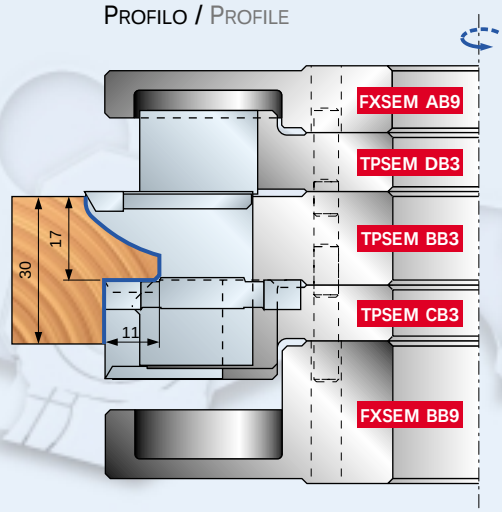


CONTROPROFILO / SCRIBE

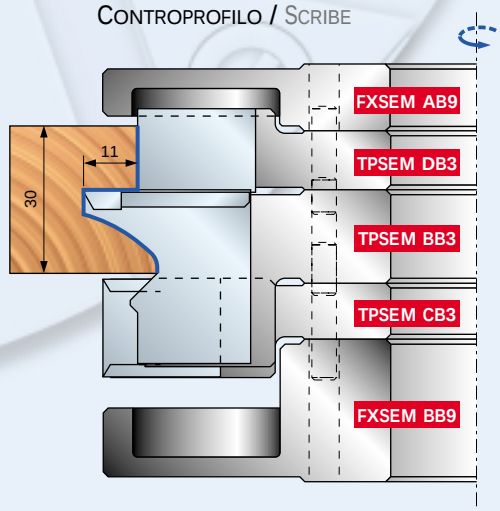


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

PROFILO / PROFILE

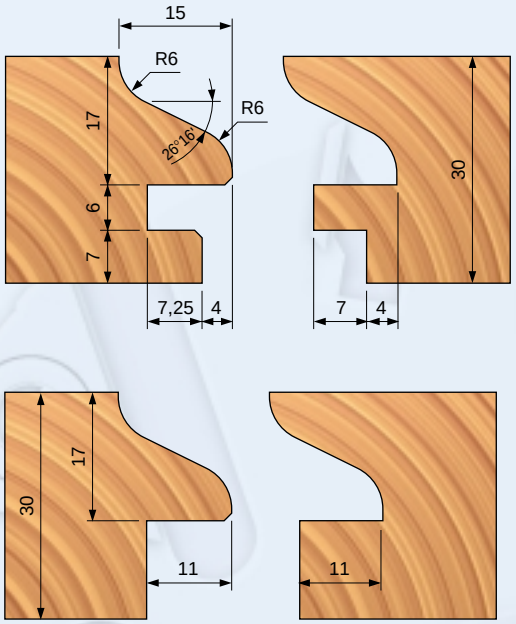


CONTROPROFILO / SCRIBE



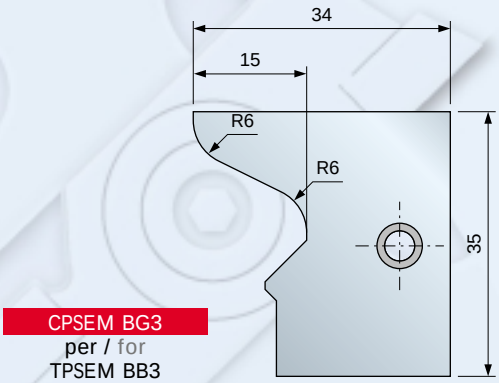
CPSEM BG3

Coltelli per TPSEM BB3 (spessore legno: 30 mm)
Knives for TPSEM BB3 (wood thickness: 30 mm)



> Esempio di ordinazione per l'esecuzione dei profili indicati
> Order example for the profiles shown

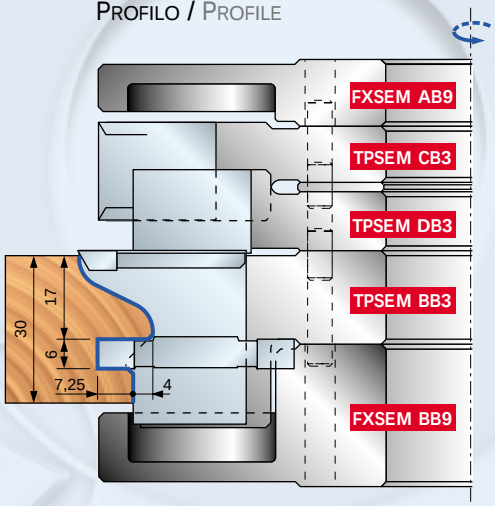
Cod.	Dimensioni • Dimensions mm	Pezzi • Pieces
TPSEM30GB3	160 x 35 (50)	1
CPSEM BG3	35 x 34 x 3	2



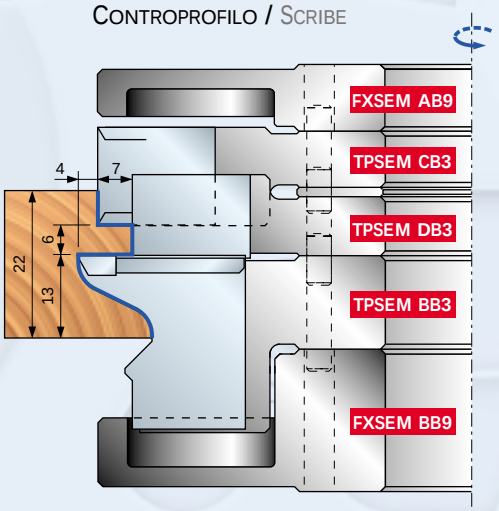
CPSEM BG3
per / for
TPSEM BB3

ESECUZIONE CON INCASTRO
CARRYING OUT A GROOVE

Profilo / Profile

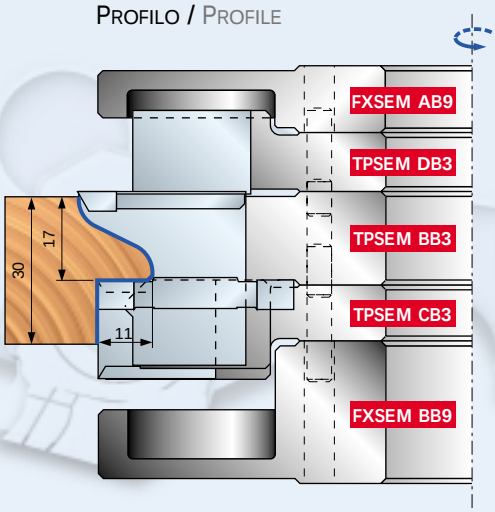


Controprofilo / Scribe

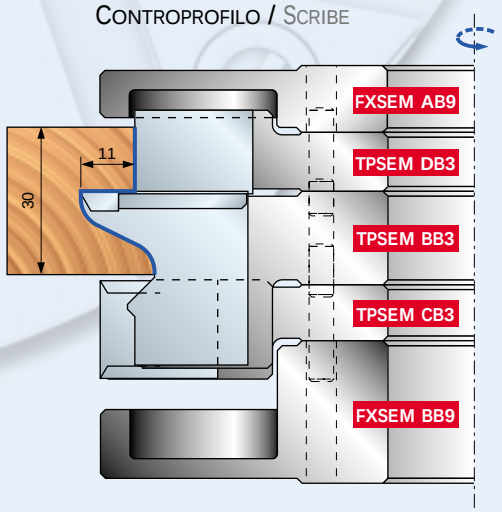


ESECUZIONE CON BATTUTA
CARRYING OUT A REBATE

Profilo / Profile

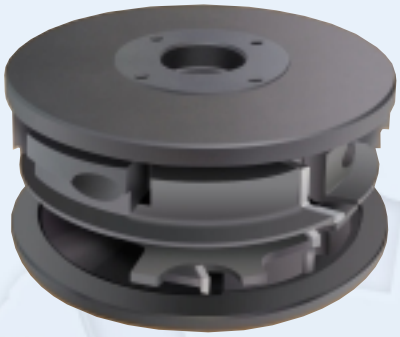


Controprofilo / Scribe



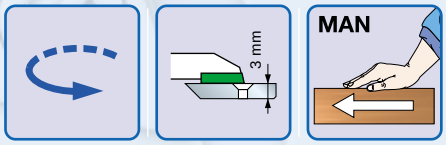
TP32M

GRUPPO PER PROFILO E CONTROPROFILO (SP. LEGNO: 22-24 mm)
CUTTERHEAD SET FOR CABINET DOORS (22-24 mm WOOD THICKNESS)



COD.	D mm	B mm	d* mm	Z	R
TP32M AB3	159		35 (50)	2+2	2

	COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
A	CN11M C410	CUNEO / WEDGE	41 x 19 x 8
A	SR06M AB3	INSERTO PER INCASTRI / GROOVING INSERT	34 x 6 x 16
A	VT18M AR9	PIASTRA DI RISCONTRO / POSITIONING PLATE	20 x 11,6 x 2,2
A	VT16M AA9	VITE / SCREW	M6 x 14,5
B	CN11M B190	CUNEO / WEDGE	19 x 17 x 8
B	VT18M AS9	PIASTRA DI RISCONTRO / POSITIONING PLATE	20 x 11,6 x 2,2
	VT03M CC9	VITE / SCREW	M10 x 18
	VT05M AA9	VITE / SCREW	M5 x 8
	CB03M EA9	CHIAVE / ALLEN KEY	5 x 110
	FX32M AB9	FLANGIA SUPERIORE / UPPER FLANGE	159 x 12 x 35
	FX32M BB9	FLANGIA INFERIORE / LOWER FLANGE	159 x 24 x 35



COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

• EN 847-1 •
R&S - SV/R 174/173

> Gruppo composto dagli utensili A e B.
SONO COMPRESI SOLO I COLTELLI PER TESTA B.

> Set consisting of cutterheads A and B.
ONLY KNIVES FOR CUTTERHEAD B ARE INCLUDED.

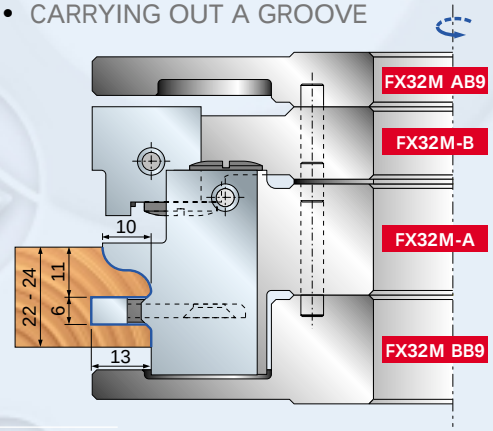
Importante

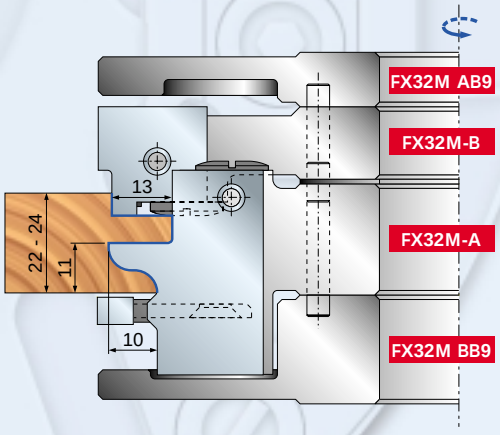
IL GRUPPO DI TESTE PORTACOLTELLI DEVE ESSERE UTILIZZATO ESCLUSIVAMENTE CON FLANGE SUPERIORE ED INFERIORE MONTATE. L'UTILIZZO DEGLI UTENSILI SINGOLARMENTE NON È CONSENTITO SU MACCHINE AD AVANZAMENTO MANUALE. IL COSTRUTTORE DECLINA OGNI RESPONSABILITÀ SULL'USO IMPROPRIO DEGLI UTENSILI.

Important

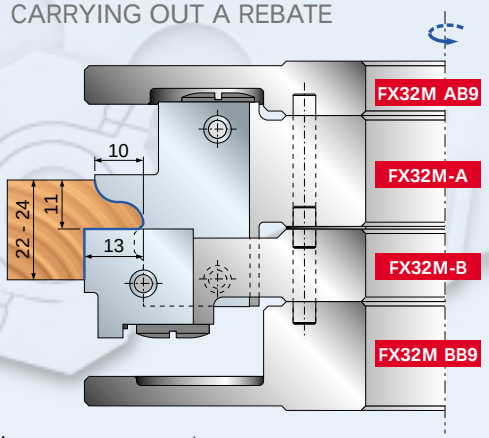
THE CUTTERHEAD SET MUST BE USED EXCLUSIVELY WITH UPPER AND LOWER FLANGES MOUNTED. THE USE OF EACH CUTTERHEAD AS A SINGULAR PIECE IS NOT CONSENTED ON MACHINES WITH MANUAL FEED. THE CONSTRUCTOR DECLINES ANY RESPONSIBILITY FOR IMPROPER USE.

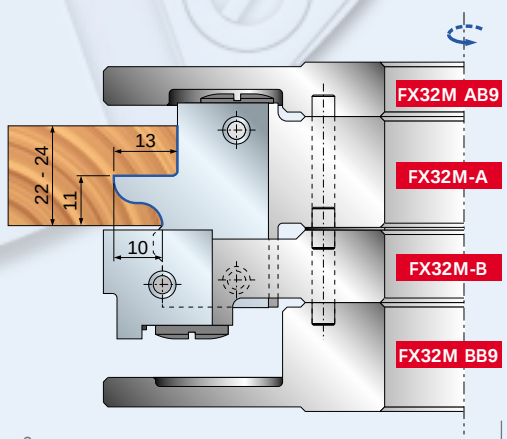
ESECUZIONE CON INCASTRO • CARRYING OUT A GROOVE





ESECUZIONE CON BATTUTA • CARRYING OUT A REBATE



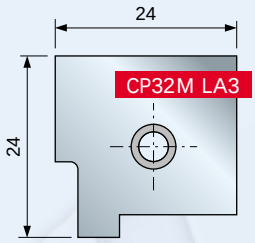


✪ LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

CP32M

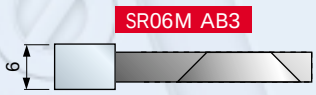
COLTELLI PROFILATI STANDARD PER TP32M
KNIVES FOR TP32M

COLTELLO PER / KNIFE FOR **TP32M - B**

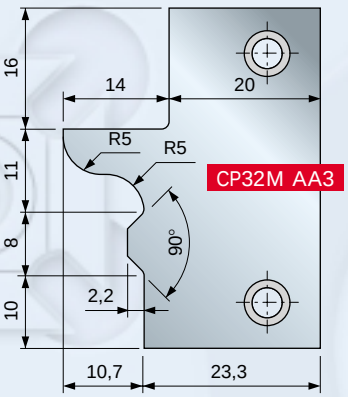


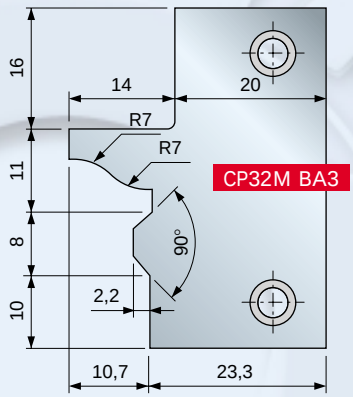
COD.	COLTELLI DI RICAMBIO • SPARE KNIVES	DIMENSIONI • DIMENSIONS
CP32M AA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M BA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M CA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M DA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M EA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M FA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M GA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M HA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M IA3	COLTELLO / KNIFE	45 x 34 x 3
CP32M LA3	COLTELLO / KNIFE	24 x 24 x 3

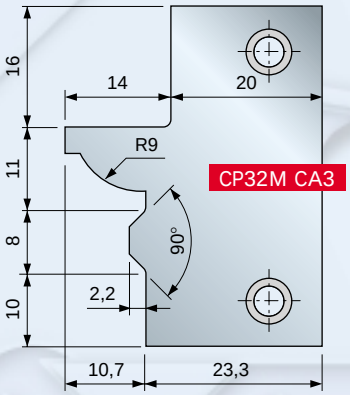
INSERTO PER / INSERT FOR **TP32M - B**

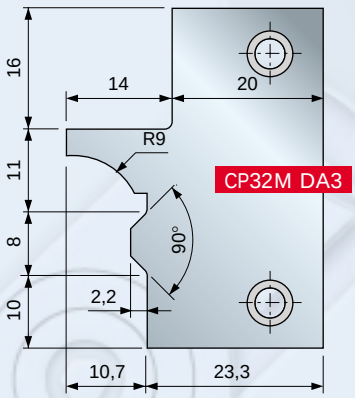


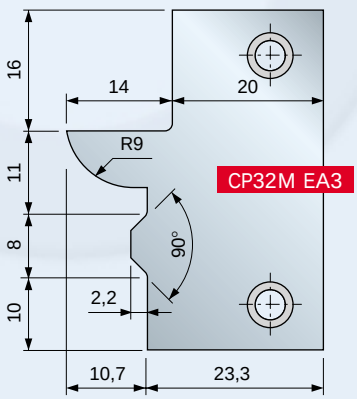
COLTELLI PER / KNIVES FOR **TP32M - A**

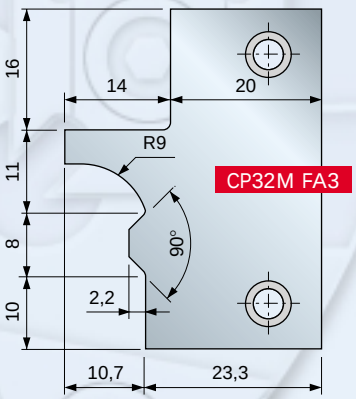


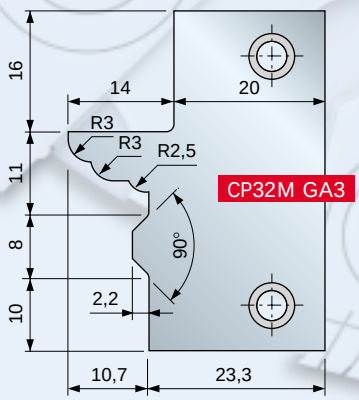


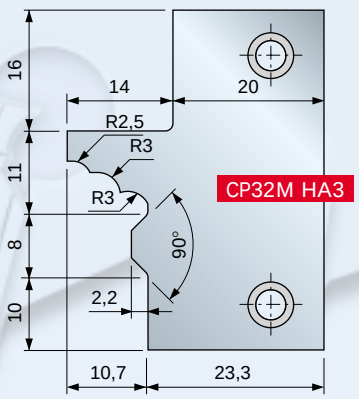


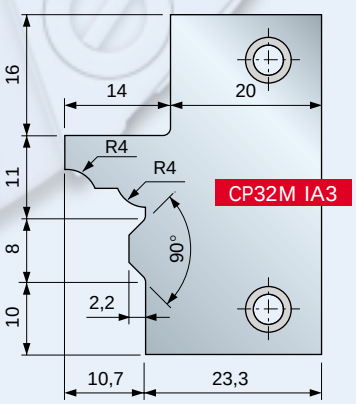










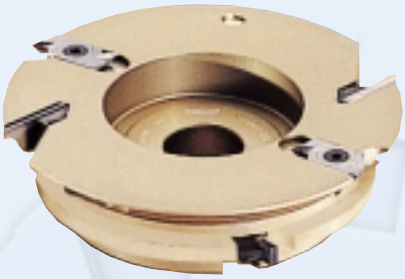


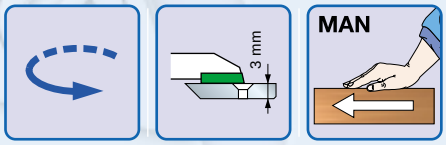
> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

TP42M

TESTA MULTIPROFILI PER PORTE
MULTIPROFILE CUTTERHEAD FOR DOORS

COD.	D mm	B mm	d* mm	Z	R
TP42M AB3	176	40	35 (50)	2	4





COD.	PARTI DI RICAMBIO • SPARE PARTS	DIMENSIONI • DIMENSIONS
VT08M AE9	VITE / SCREW	M5 x 7 x 16
CN13M AS9	CUNEO / WEDGE	21 x 19 x 8
VT03M CC9	VITE / SCREW	M10 x 18
IG05MD AA3	INSERTO RASANTE / SPUR INSERT	40 x 4 x 7
VT16M AA9	VITE / SCREW	M6 x 14,5
SR06M AM3	INSERTO PER INCASTRI / GROOVING INSERT	34 x 8 x 16
VT16M AB9	VITE / SCREW	M6 x 11,5
CB03M BA9	VITE / SCREW	4 x 110
CB03M EA9	VITE / SCREW	5 x 110

> Corpo in lega leggera (AVIONAL). Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'ARTICOLO VIENE FORNITO SENZA COLTELLI.

> Light alloy body (AVIONAL). For cleaning do not use products containing caustic soda.
THIS ITEM IS SUPPLIED WITHOUT KNIVES.

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

COD.	COLTELLI DI RICAMBIO • SPARE KNIVES	DIMENSIONI • DIMENSIONS
CP42M AA3	1 COLTELLO / KNIFE	24 x 34 x 3
CP42M BA3	2 COLTELLO / KNIFE	24 x 34 x 3
CP42M CA3	3 COLTELLO / KNIFE	24 x 34 x 3
CP42M DA3	4 COLTELLO / KNIFE	24 x 34 x 3
CP42M EA3	5 COLTELLO / KNIFE	24 x 34 x 3

> UTENSILI COLLAUDATI SECONDO LA NORMATIVA
> TOOLS TESTED ACCORDING TO THE NORM

• EN 847-1 •
R&S - SV/R 169/168

> **CARATTERISTICHE:**

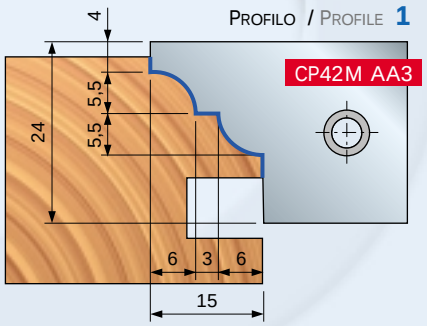
Questo utensile è stato progettato per essere utilizzato su macchine toupie. Particolarmente indicato per la profilatura di legni teneri, duri ed esotici, con ottima finitura.
La versatilità di questo utensile permette di produrre porte con spessori da 44 a 52 mm. Questo può essere ottenuto con due passate, capovolgendo la parte già lavorata per la seconda lavorazione ed avendo l'accortezza di regolare l'altezza di programmazione dell'utensile.
I coltelli, di diverso profilo, sono perfettamente intercambiabili tra loro e mantengono il diametro minimo di lavorazione.

> **FEATURES:**

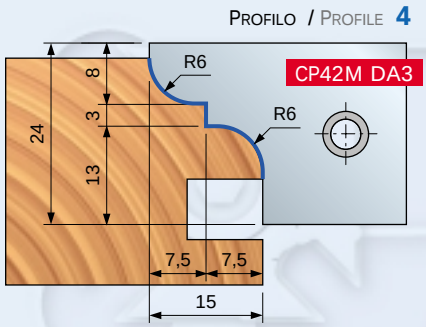
This tool is designed to be used on moulding. Mostly suitable for moulding and profiling on soft, hard and exotic wood, with a top quality finish.
The tool's versatility allows you to produce 44 - 52 mm thick doors. This can be achieved with two passes and by capsiding the machined part for the second run, taking care to adjust the tool's programmed height accordingly.
The variously profiled knives are perfectly interchangeable and do not affect the minimum tool diameter.

ESEMPI DI PROFILI REALIZZABILI
EXAMPLE OF PROFILES

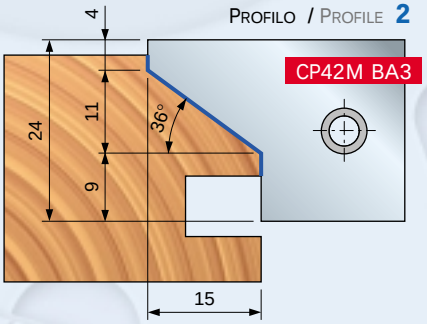
PROFILO / PROFILE 1 — CP42M AA3



PROFILO / PROFILE 4 — CP42M DA3

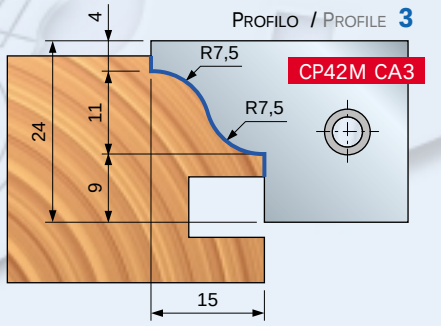


PROFILO / PROFILE 2 — CP42M BA3

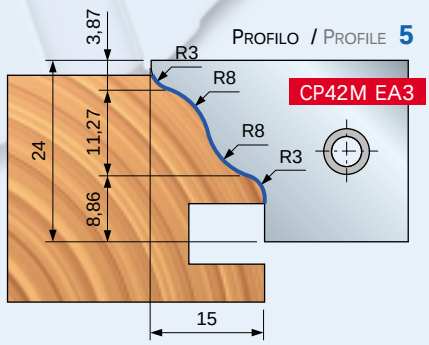


I profili 4 e 5 sono utilizzabili solamente con avanzamento meccanico.
Profiles 4 and 5 are usable with automatic feed only.

PROFILO / PROFILE 3 — CP42M CA3



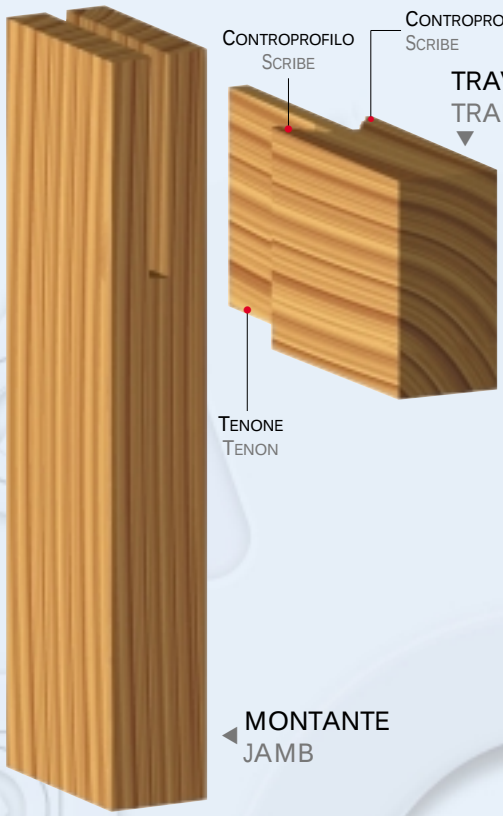
PROFILO / PROFILE 5 — CP42M EA3

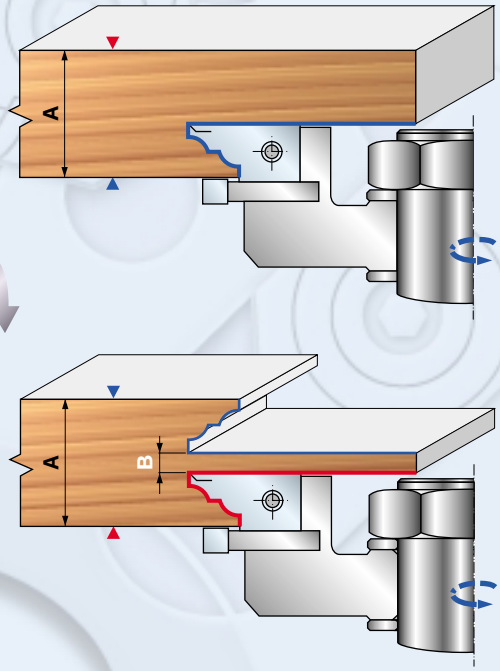


LA QUOTA TRA PARENTESI È LA MASSIMA ALLARGATURA FORO POSSIBILE • SIZE SHOW BETWEEN BRACKETS IS THE MAX. REBORE POSSIBLE

1 Esecuzione del controprofilo con spina
Door tenoning

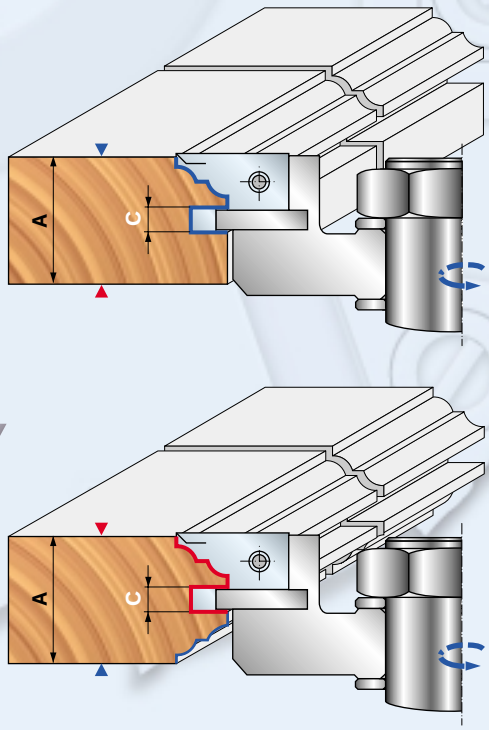
A Spessore porta Door thickness	B Spessore tenone Tenon thickness
44 mm	8 mm
46 mm	10 mm
50 mm	14 mm
52 mm	16 mm





2 Profilatura dei montanti e dei traversi
Door frame profiling

A Spessore porta Door thickness	C Spessore incastro Groove thickness
44 mm	8 mm
46 mm	10 mm
50 mm	14 mm
52 mm	16 mm



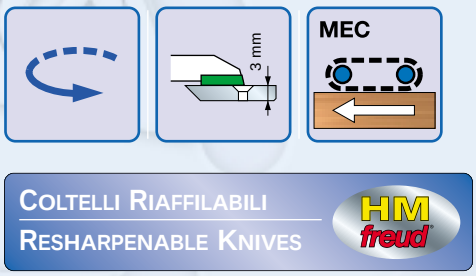
Vedere a pag. 92 “Costruzione di una porta”
Please refer to page 92 “Door manufacturing”

TP43M

GRUPPI PER SCURETTI A DOGHE VERTICALI
SETS FOR VERTICAL SLAT SHUTTERS

COD.	D mm	B mm	d mm	Z	R
TP43M MD3			50	2+2	
TP43M FD3			50	2+2	

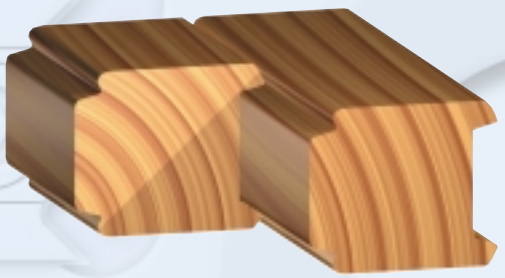
	COD.	PARTI DI RICAMBIO • SPARE PARTS		DIMENSIONI • DIMENSIONS
MD3	CP43M 1MD3	COLTELLO / KNIFE	1	34 x 24 x 3
	CP43M 2MD3	COLTELLO / KNIFE	2	34 x 24 x 3
	CN13M AV9	CUNEO / WEDGE	1	30,7 x 23 X 8
	CN13M AW9	CUNEO / WEDGE	2	30,7 x 23 X 8
FD3	CP43M 1FD3	COLTELLO / KNIFE	1	35 x 29 x 3
	CP43M 2FD3	COLTELLO / KNIFE	2	35 x 29 x 3
	CN13M AT9	CUNEO / WEDGE	1	30,7 x 28 X 8
	CN13M AU9	CUNEO / WEDGE	2	30,7 x 28 X 8
	VT03M CC9	VITE / SCREW		M10 x 18
	VT08M AE3	VITE / SCREW		M5 x 7 x 16



> Le bussole devono essere ordinate a parte.
N.B.: I gruppi si possono ordinare anche con rotazione oraria con la bussola cod. BF10MS.

> Sleeves must be ordered separately.
NOTE: The sets can be ordered with clockwise rotation with BF10MS sleeve.

COLTELLI RIAFFILABILI
RESHARPENABLE KNIVES
HM freud

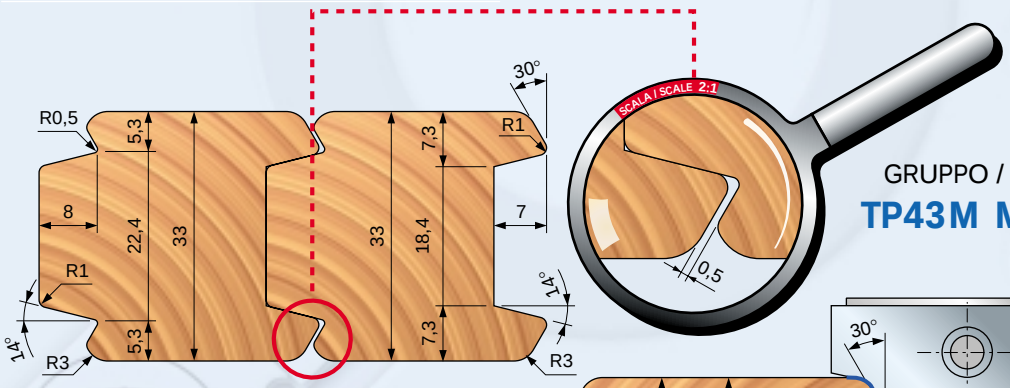


> BUSSOLE CON ROTAZIONE DESTRA
> RIGHT-HAND SLEEVES

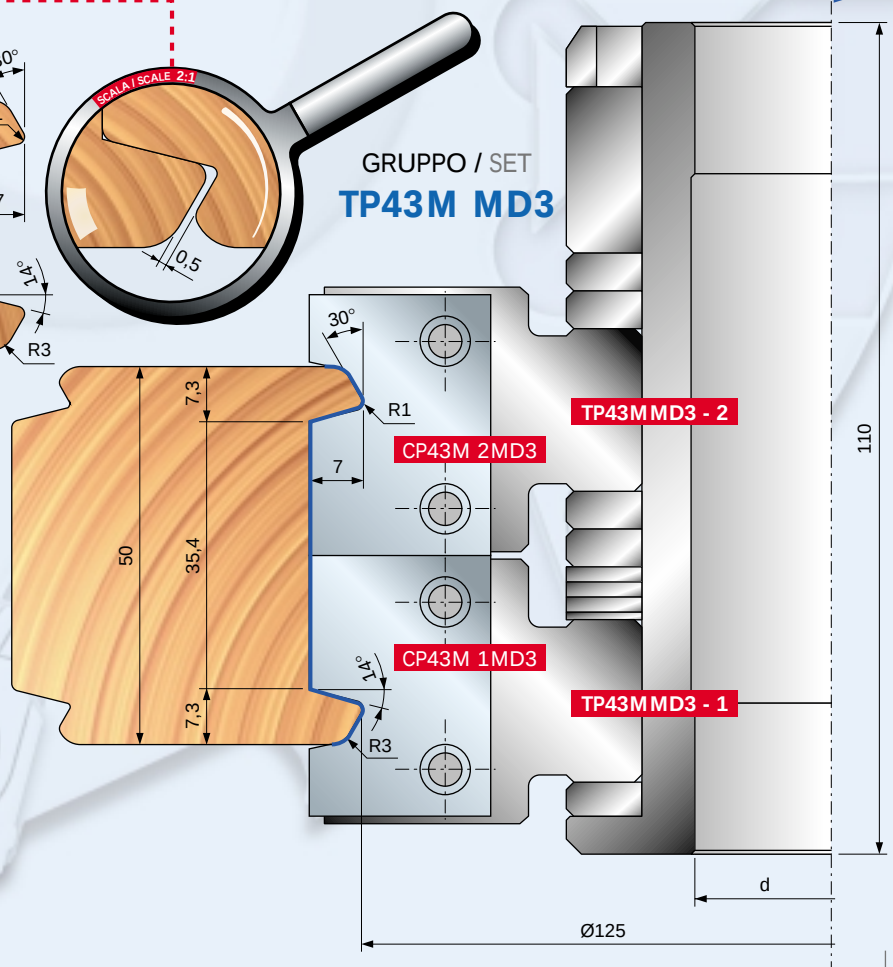
COD.	DIMENSIONI • DIMENSIONS
BF10MD AA9	Ø50 x 110 x 30
BF10MD AB9	Ø50 x 110 x 35
BF10MD AC9	Ø50 x 110 x 40

> BUSSOLE CON ROTAZIONE SINISTRA
> LEFT-HAND SLEEVES

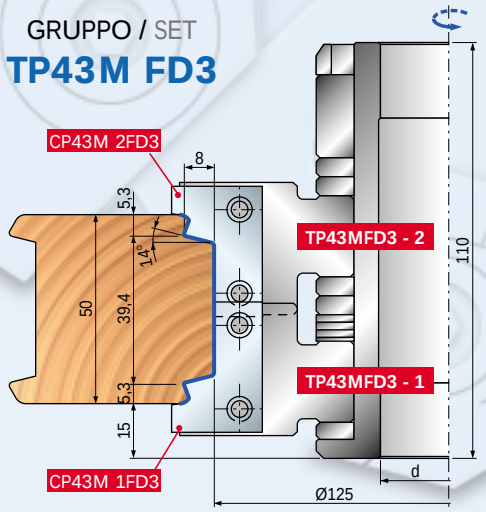
COD.	DIMENSIONI • DIMENSIONS
BF10MS AA9	Ø50 x 110 x 30
BF10MS AB9	Ø50 x 110 x 35
BF10MS AC9	Ø50 x 110 x 40



GRUPPO / SET
TP43M MD3



GRUPPO / SET
TP43M FD3

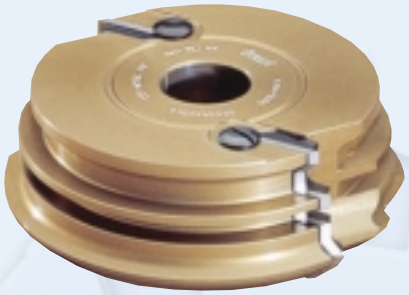


freud

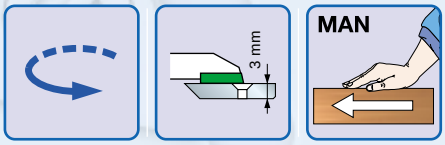
TP44M

Testa mulitprofili
Multiprofile cutterhead

Cod.	D mm	B mm	d* mm	Z	R
TP44M AB3	160	55	35 (50)	2	



Cod.	Parti di ricambio • Spare parts		Dimensioni • Dimensions
CN13M CE9	Cuneo / Wedge		38 x 51 x 8
VT08M AE3	Vite / Screw		M5 x 7 x 16
VT03M CC9	Vite / Screw		M10 x 18
CB03M EA9	Chiave / Allen key		5 x 110



> Corpo in lega leggera (Avional).
Per la pulizia non utilizzare prodotti contenenti soda caustica.
L'articolo viene fornito con coltelli.

> Light alloy body (Avional).
Warning: for cleaning do not use products containing caustic soda.
This item is supplied with knives.

Coltelli Riaffilabili
Resharpenable Knives

Cod.		Coltelli di ricambio • Spare knives	Dimensioni • Dimensions
CP44M AA3	1	Coltello / Knife	55 x 40 x 3
CP44M BA3	2	Coltello / Knife	55 x 40 x 3

Profilo - Profile 1
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
R&S - SV/R 136/138

Profilo - Profile 2
> Utensili collaudati secondo la normativa
> Tools tested according to the norm

• EN 847-1 •
R&S - SV/R 137/139

> Caratteristiche:

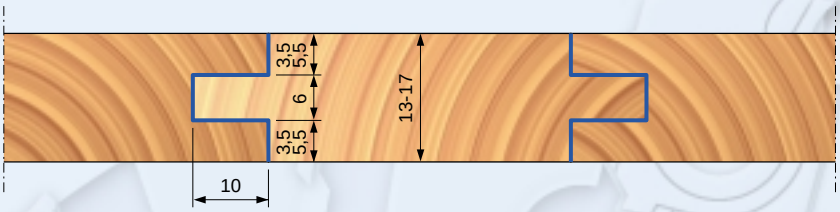
Testa multiprofilo per perline, antine e antoni, completa di 2 set di coltelli riaffilabili. Da utilizzare su macchine toupie.
Particolarmente adatta per lavorazioni di contornatura e profilatura su legni teneri, duri ed esotici. Ottima finitura.
La particolare versatilità dell'utensile permette l'esecuzione di antine di spessore 20-22 mm complete di specchietto, l'esecuzione di perline di spessore 13-17 mm e 20-22 mm, di antoni di spessore di 26 oppure 33 mm. Il tutto viene sempre eseguito con doppie passate invertendo la base di appoggio del pezzo tra una lavorazione e l'altra e modificando opportunamente la programmazione in altezza. I coltelli, di diverso profilo, sono perfettamente intercambiabili tra loro e mantengono il diametro minimo di lavorazione.

> Features:

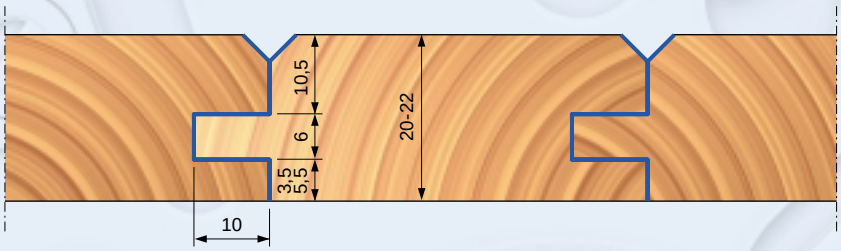
Multiprofile cutterhead for tongue, groove panels, flooring and cabinet doors, kitted with two sets of resharpenable knives.
This tool is designed to be used on moulding machines.
Mostly suitable for moulding and profiling on soft, hard and exotic wood, with a top quality finish.
The tool's versatility allows you to produce 20-22 mm thick cabinet doors, 13-17 mm and 20-22 mm thick floor boards and 26 or 33 mm thick shutters.
This can be achieved with two passes and by capsiding the machined part for the second run, taking care to adjust the tool's programmed height accordingly. The variously profiled knives are perfectly interchangeable and do not affect the minimum tool diameter.

> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

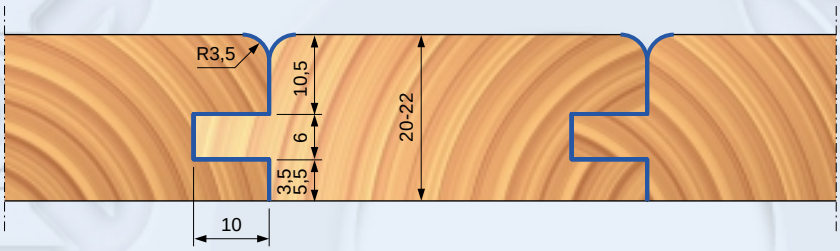
Esempi di perline
Examples of tongue and groove panels



Profilo / Profile **A**

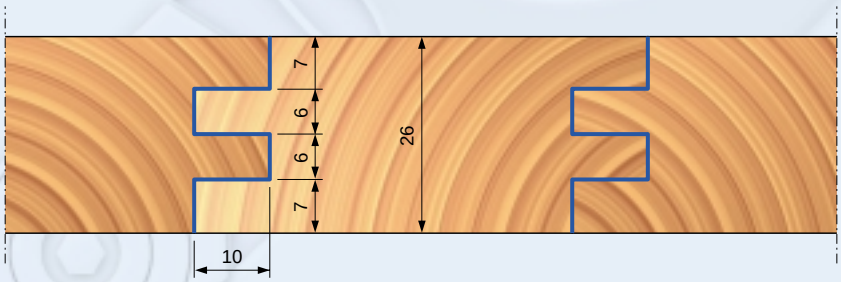


Profilo / Profile **B**

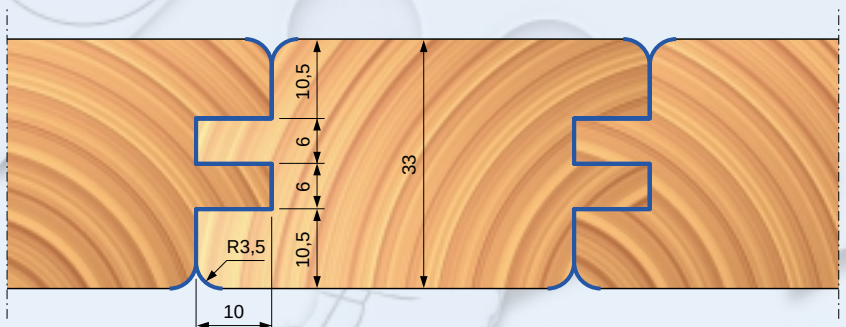


Profilo / Profile **C**

Esempi di listoni
Examples of shutters

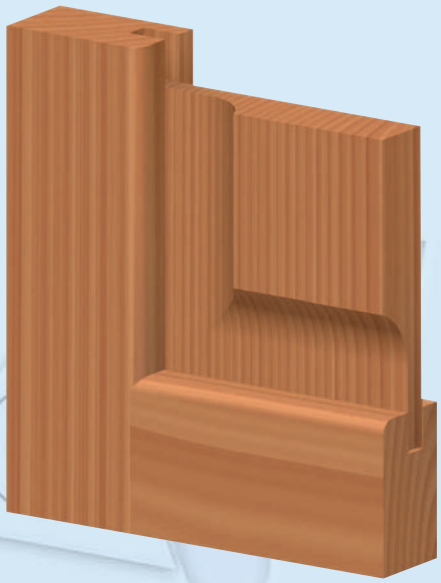


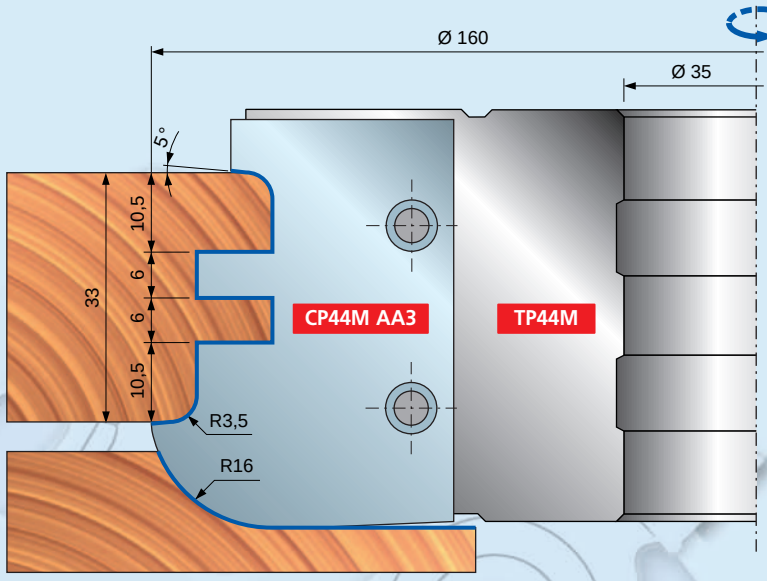
Profilo / Profile **D**



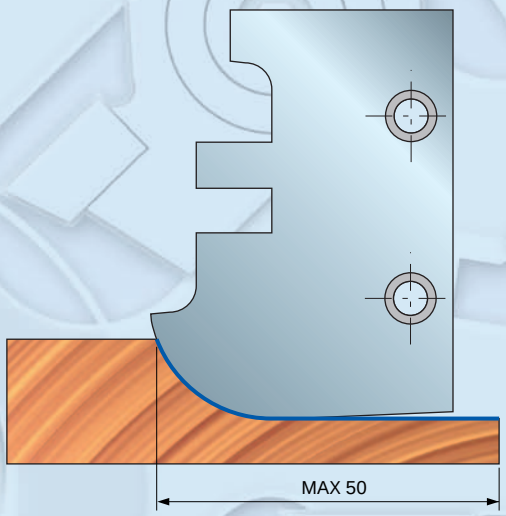
Profilo / Profile **E**

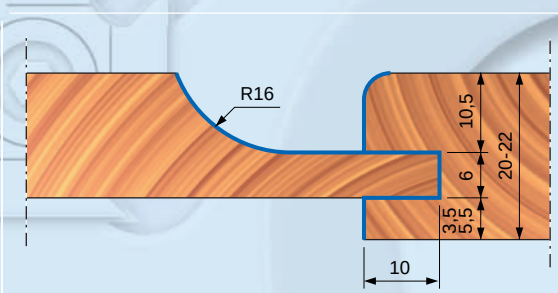
PROFILO / PROFILE 1

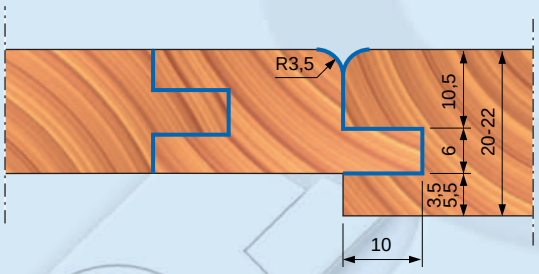


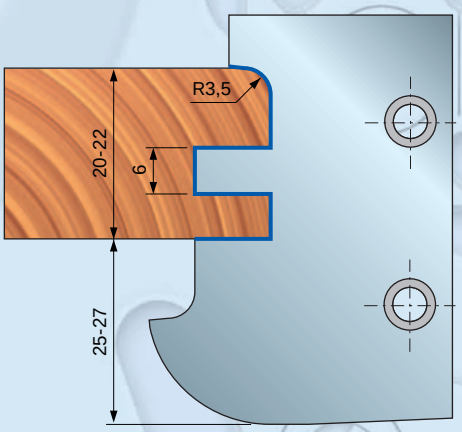


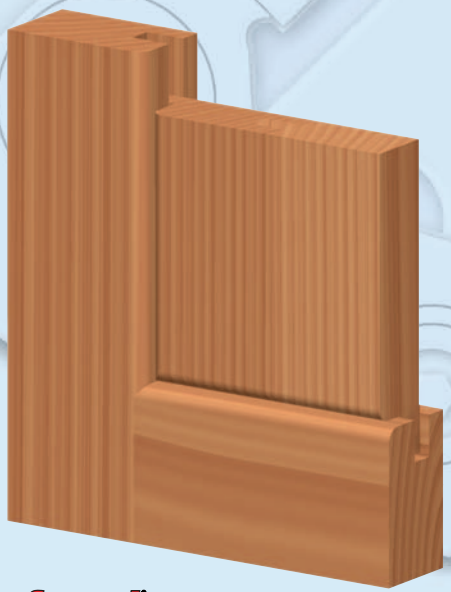
Vedere a pag. 87 "COSTRUZIONE DELL'ANTINA"
Please refer to page 87 "CABINET DOOR MANUFACTURING"

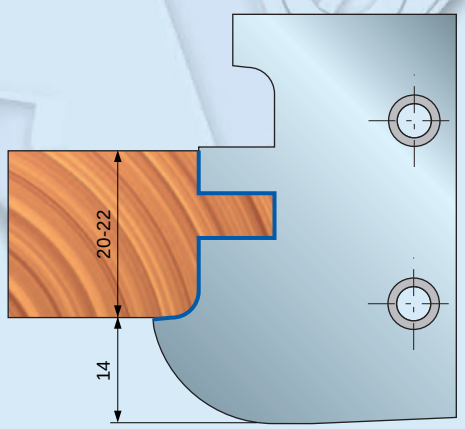




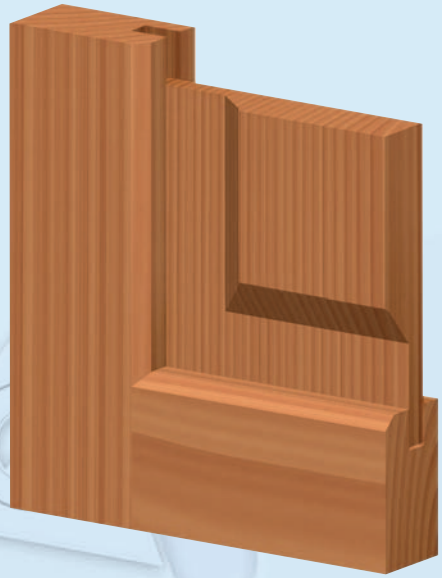


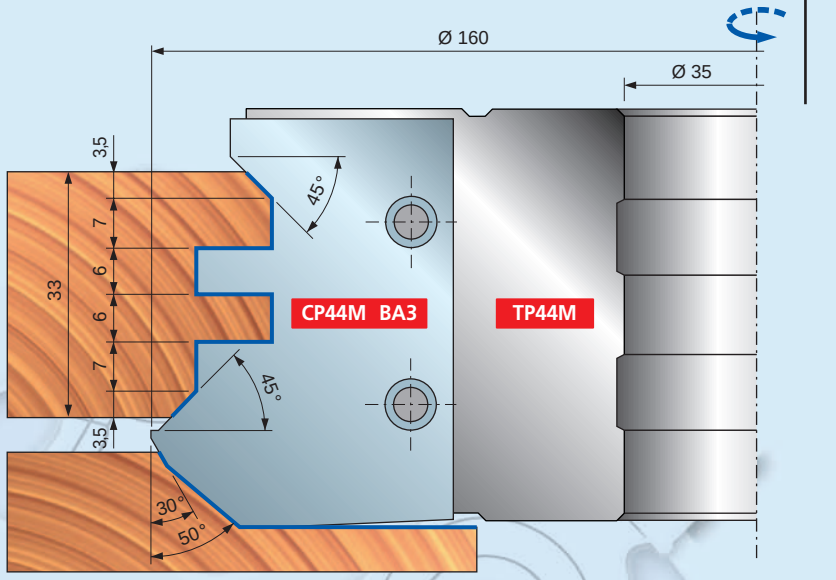


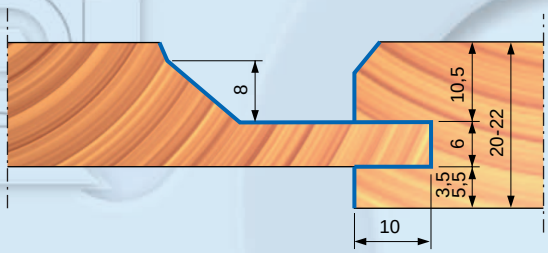


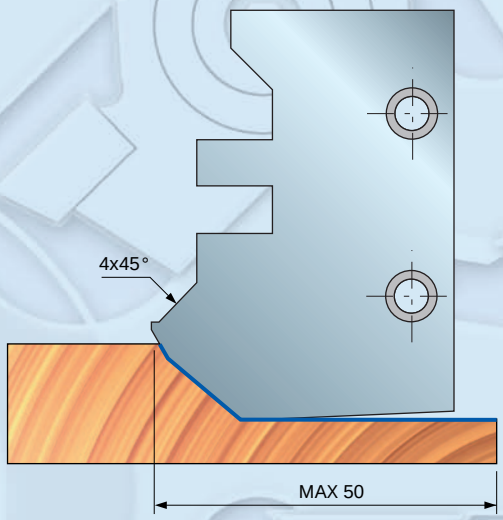


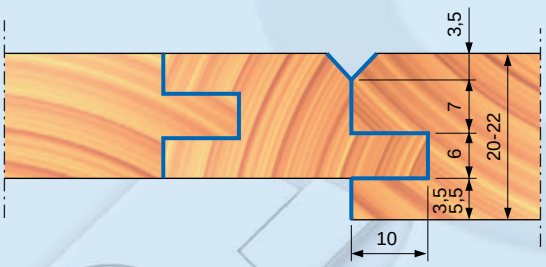
PROFILO / PROFILE 2

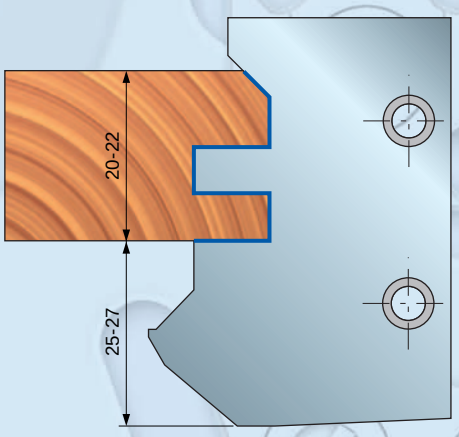


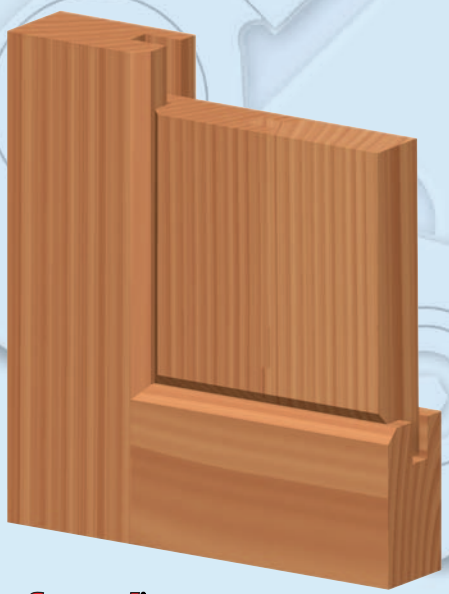


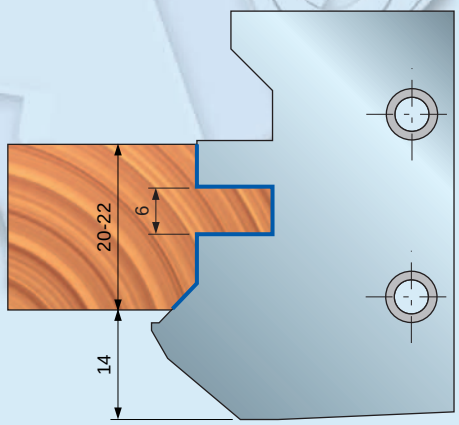






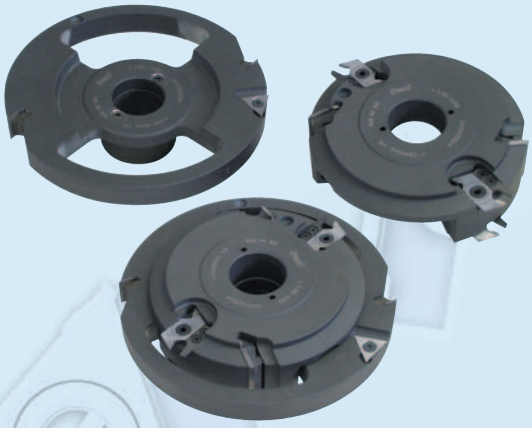


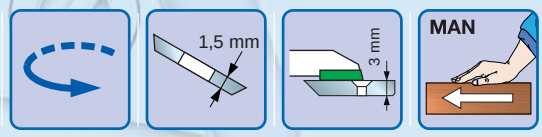




TP45M

Gruppo teste per alzanti-scorrevoli
Cutterheads set for lifting-sliding doors





Coltelli Riaffilabili
Resharpenable Knives

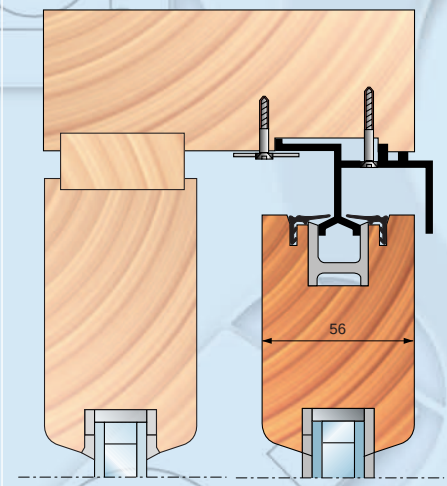
HM freud

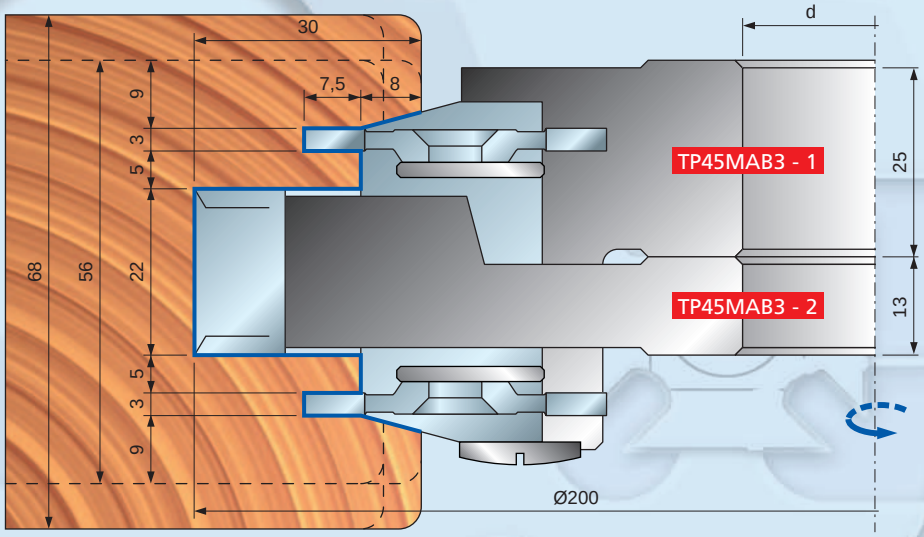
Cod.	D mm	B mm	d* mm	Z	R	I
TP45M AB3	200	45	35 (50)	2+2	2	4

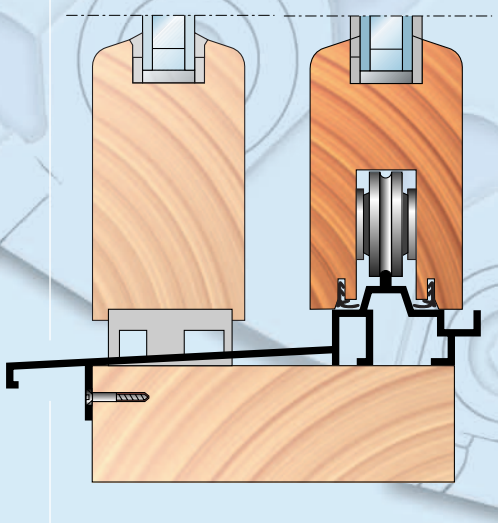
	Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
TP45MAB3 - 1	CP45M AA3	Coltello / Knife	45 x 25 x 3
	VT08M AE3	Vite / Screw	M5 x 16 x 7
	CN11M B410	Cuneo / Wedge	41 x 17 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	IG04MD AC3	Inserto per incastri / Grooving insert	40 x 16 x 3
	IG04MS AC3	Inserto per incastri / Grooving insert	40 x 16 x 3
	VT16M AA9	Vite / Screw	M6 x 14,5
TP45MAB3 - 2	CG06M TA3	Coltello / Knife	21,6 x 12 x 1,5
	CN09M AK9	Cuneo / Wedge	15 x 20 x 8
	VT20M MA9	Ogiva / Nut	15 x 13,3 x 10
	VT19M MA9	Vite / Screw	M10 x 22
	RG02M AA3	Rasante / Spur	22,86 x 2,5
	VT05M AA9	Vite / Screw	M5 x 8
	CB03M BA9	Chiave / Allen key	4 x 110
	CB03M EA9	Chiave / Allen key	5 x 110

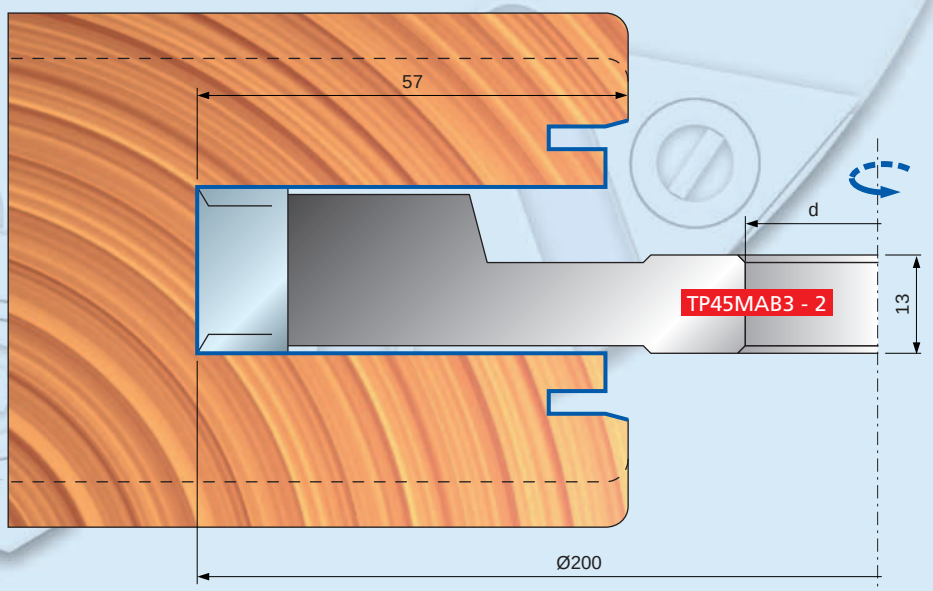
> Per la realizzazione di porte con peso complessivo max 250 Kg, con l'applicazione della ferramenta tipo MAICO HS25, AGB o G.U.
L'articolo comprende anche l'anello sp. 25 mm di programmazione sulla base.

> For doors with maximum weight of 250 Kg using hardware HS25 from MAICO, AGB or G.U. This item is supplied with 25 mm thick ring for base programming.







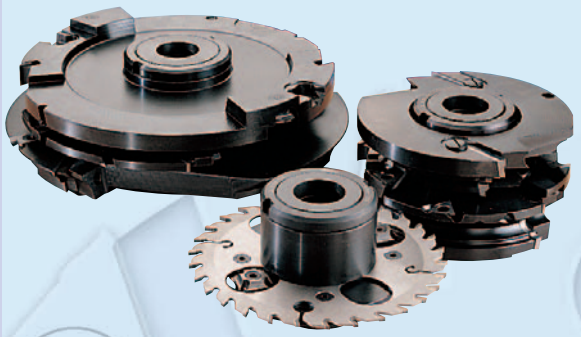


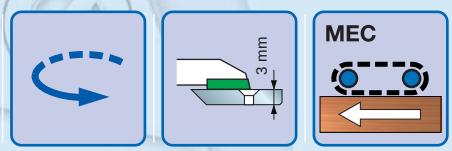
> SISTEMA PERFORMANCE < > PERFORMANCE SYSTEM PATENTED <

* La quota tra parentesi è la massima allargatura foro possibile • Size show between brackets is the max. rebore possible

ST12MG

Gruppi per profili di porte interne e portoncini
Profiling sets for internal and external doors





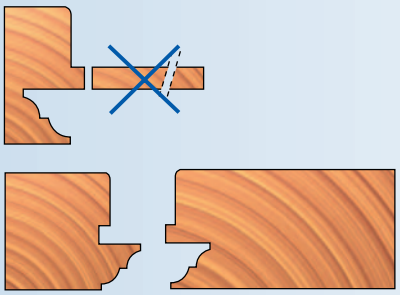
Coltelli Riaffilabili
Resharpenable Knives
HM freud

> Utensili per gruppi ST12MG-800 e ST12MG-801
> Tools for ST12MG-800 and ST12MG-801 sets

Cod.	D mm	B mm	d mm	Z	R
ST12M HA3	186	29	70	2	
ST12M HB3	176	8	70	2	8
ST12M HC3	176	58,5	70	2	
ST12M HD3	184	8	70	2	8

> La bussola BF10MD ed i coltelli per gli utensili HA3 e HC3 vanno ordinati a parte.
> BF10MD sleeve and knives for cutterheads HA3 and HC3 are not included.

	Cod.	Parti di ricambio • Spare parts		Dimensioni • Dimensions
HA3	CN07M HA9	Cuneo / Wedge		26 x 38 x 8
	VT03M CC9	Vite / Screw		M10 x 18
	VT08M AE9	Vite / Screw		M5 x 7 x 16
HC3	VT03M CC9	Vite / Screw		M10 x 18
	CN07M HC9	Cuneo / Wedge		50 x 38 x 8
	VT08M AE9	Vite / Screw		M5 x 7 x 16
	IG52M AE3	Inserto raggiatore / Rounding insert		22 x 16 X 5
	VT16M AE9	Vite / Screw		M6 x 13
	CN03M BA9	Supporto / Serrated support		14 x 21,5 X 22
	CN03M BB9	Cuneo / Wedge		28 x 9,5 X 8
	VT19M BB9	Vite / Screw		M8 x 22
HB3 - HD3	CG06M HA3	Coltello / Knife		7,6 x 12 x 1,5
	CN09M DA9	Cuneo / Wedge		15 x 7,2 x 8
	VT11M AA9	Vite / Screw		M5 x 19
	RG02M AA3	Rasante / Spur		22,86 x 2,5
	VT05M AC9	Vite / Screw		M5 x 6
	IG51M BA3	Inserto smussatore / Bevelling insert		22 x 16 x 5
	VT16M AB9	Vite / Screw		M6 x 11,5



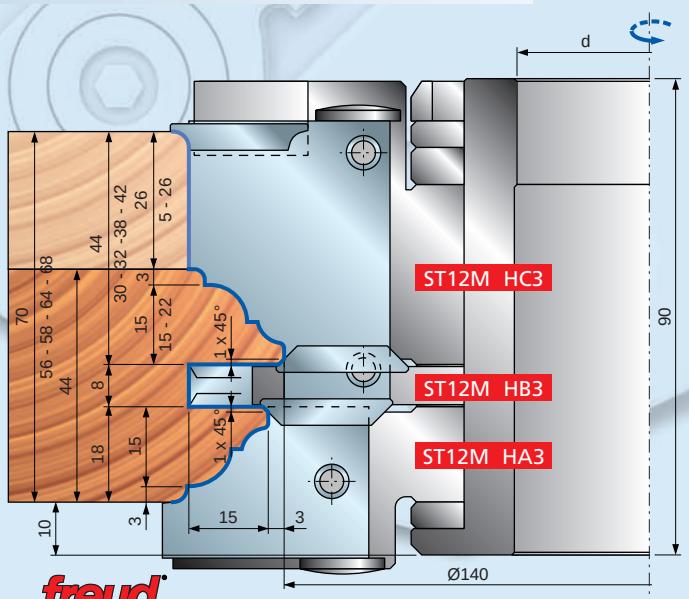
Traversi e montanti intermedi con il gruppo **ST12MG-801:**
> Tagliando la spina maschio come illustrato, si ottiene il controprofilo con spinetta di tenuta.

Jamb and transom with **ST12MG-801** set:
> By cutting the tenon as shown, the counter profile with anti-torsion pin is obtained.

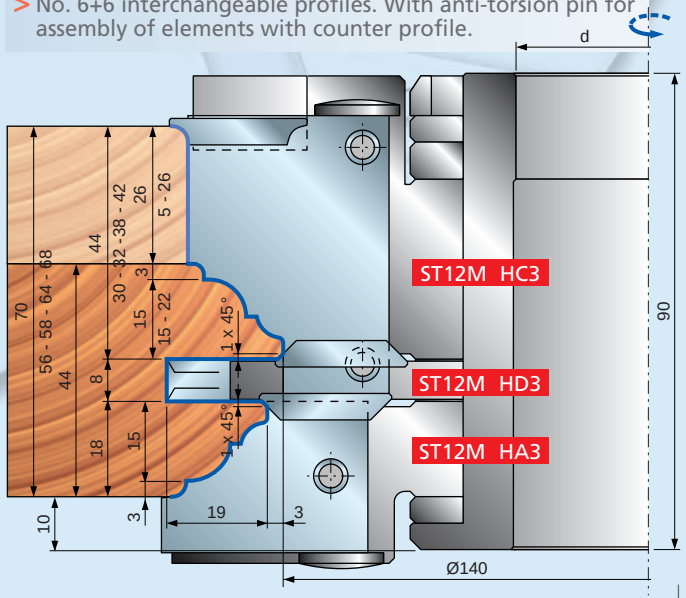
Spessore legno Wood thickness	Regolaz. vetrocamera Double-glazing thickness adj.
44	5 ÷ 8
56	13 ÷ 20
58	15 ÷ 22
64	21 ÷ 28
68	25 ÷ 32
70	27 ÷ 34

Cod. Bussole / Sleeves	Dimensioni Dimensions
BF10MD ED9	Ø70 x 90 x 50
BF10MD EC9	Ø70 x 90 x 40
BF10MD EB9	Ø70 x 90 x 35

GRUPPO / SET **ST12MG-800**
> N. 6+6 profili intercambiabili.
> No. 6+6 interchangeable profiles.



GRUPPO / SET **ST12MG-801**
> N. 6+6 profili intercambiabili. Con incastro di tenuta per assemblaggio di elementi con controprofilo.
> No. 6+6 interchangeable profiles. With anti-torsion pin for assembly of elements with counter profile.



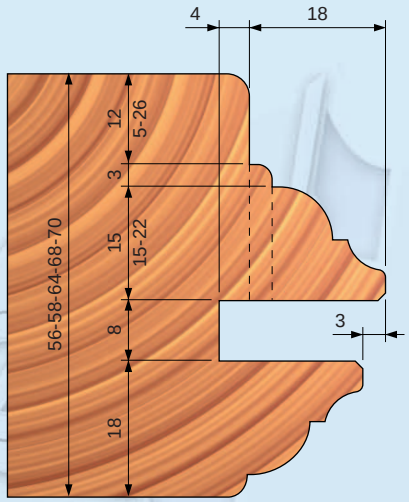
freud

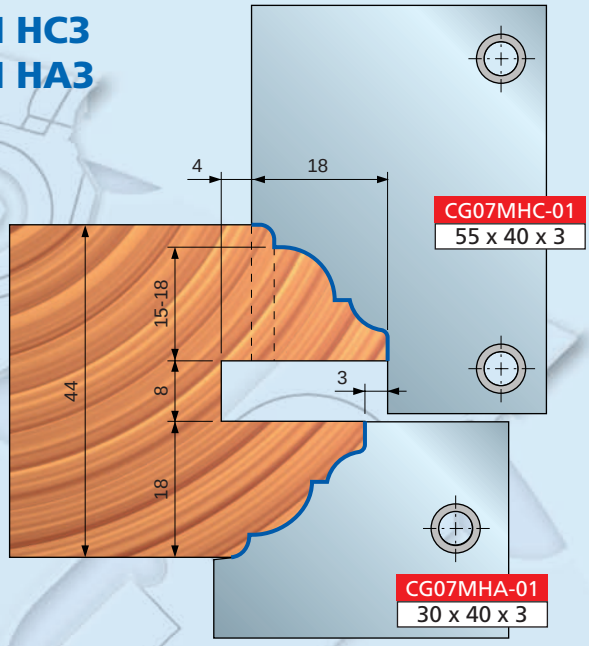
ST12MG

PROFILI CON RAGGIATURA ESTERNA DA 3 mm
PROFILES WITH 3 mm EXTERNAL ROUNDING

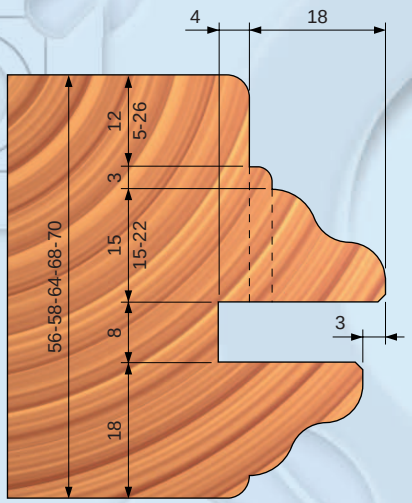
COLTELLI PER UTENSILI / KNIVES FOR CUTTERHEADS: **ST12M HC3**
ST12M HA3

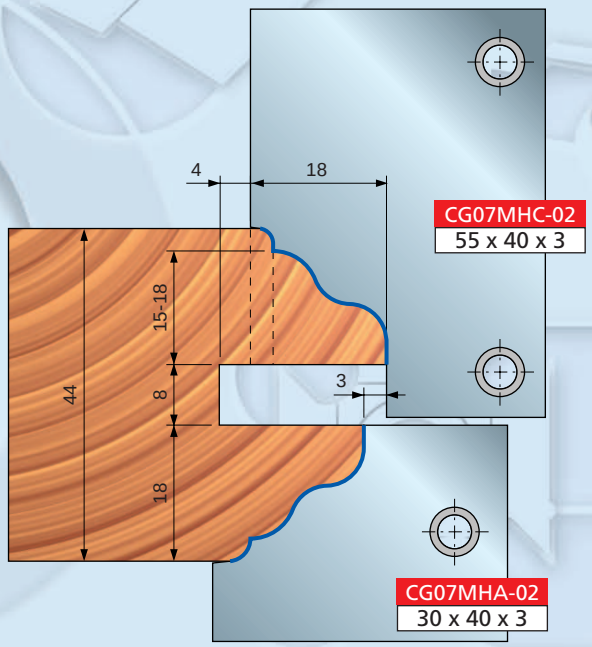
PROFILO / PROFILE **1**



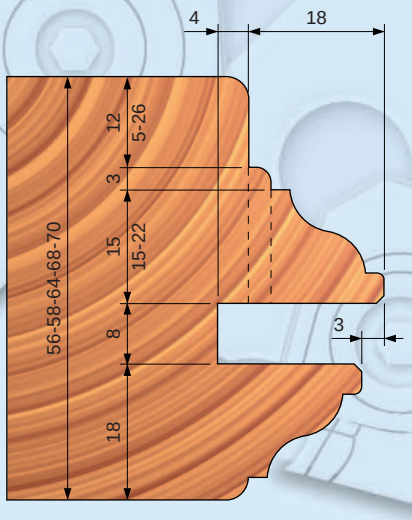


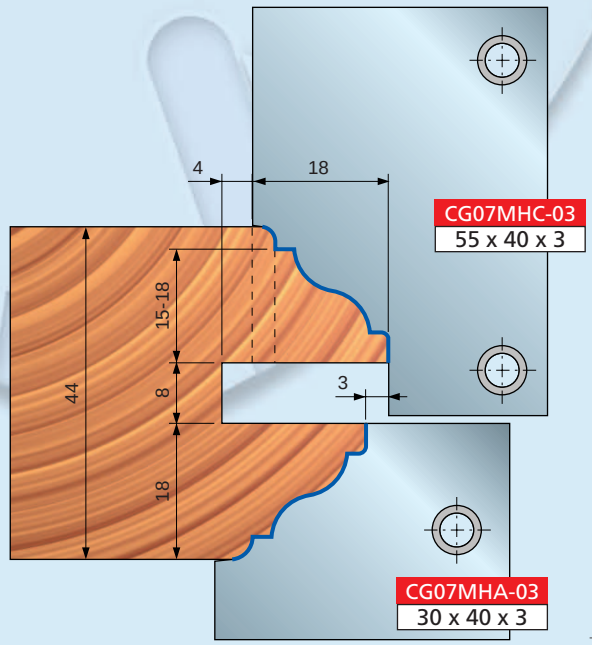
PROFILO / PROFILE **2**





PROFILO / PROFILE **3**



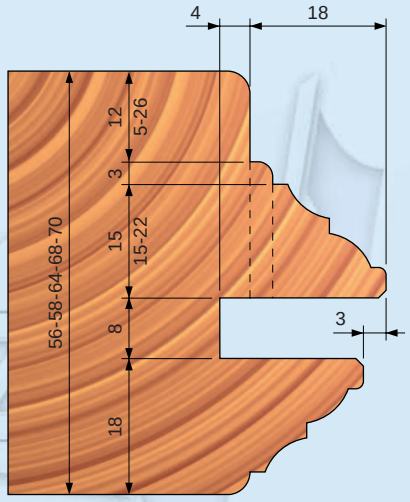


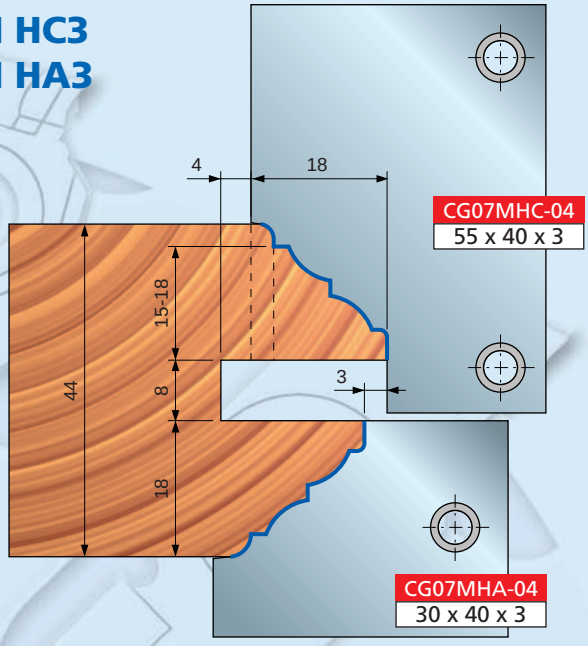
ST12MG

PROFILI CON RAGGIATURA ESTERNA DA 3 mm
PROFILES WITH 3 mm EXTERNAL ROUNDING

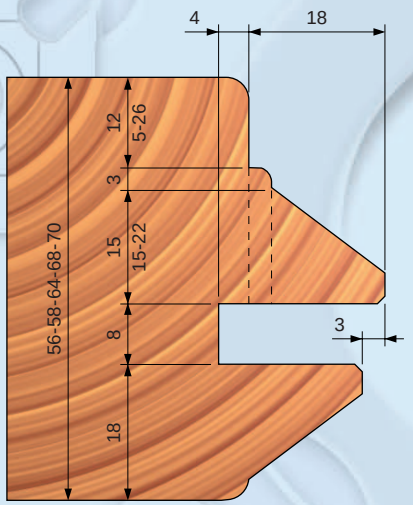
COLTELLI PER UTENSILI / KNIVES FOR CUTTERHEADS: **ST12M HC3**
ST12M HA3

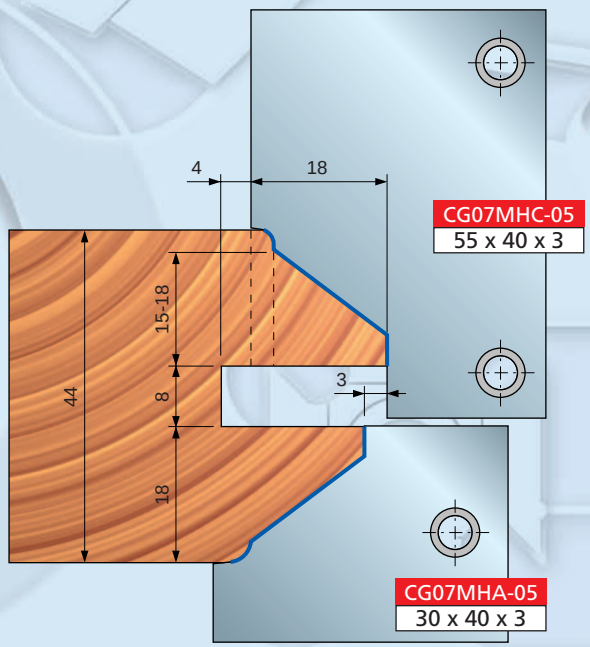
PROFILO / PROFILE **4**



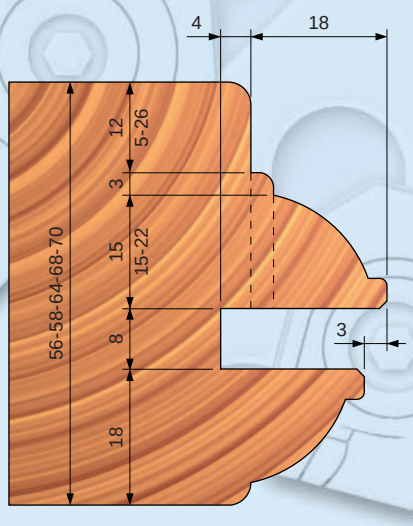


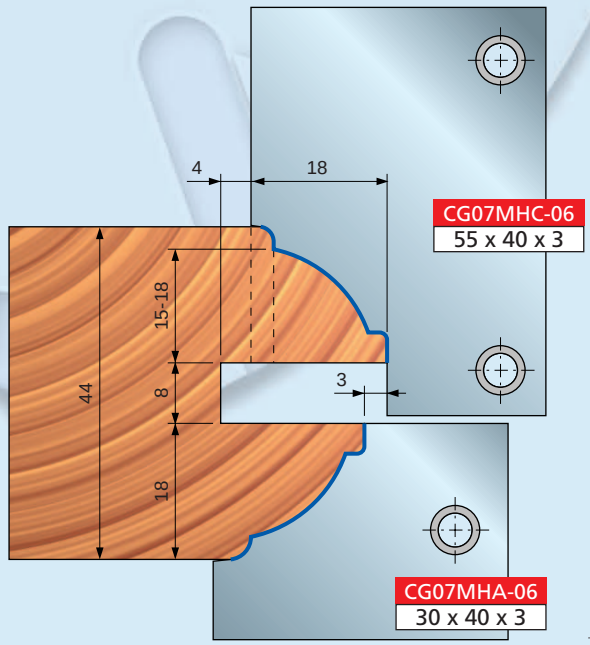
PROFILO / PROFILE **5**





PROFILO / PROFILE **6**



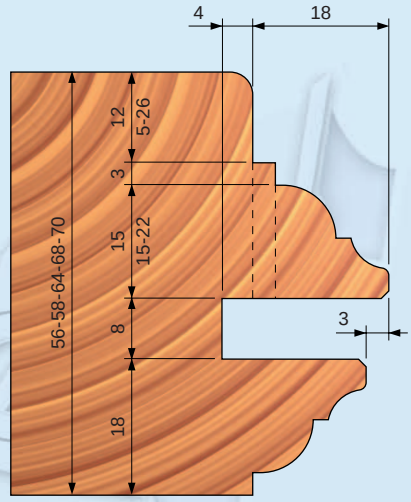


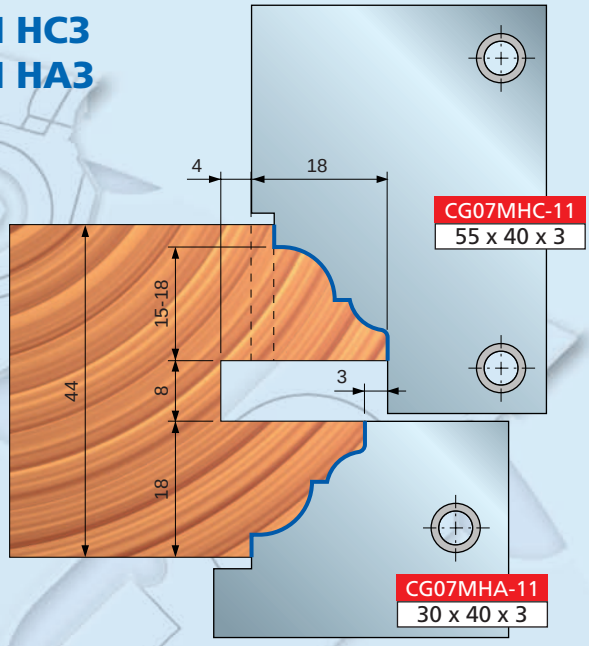
ST12MG

PROFILI SENZA RAGGIATURA ESTERNA
PROFILES WITHOUT EXTERNAL ROUNDING

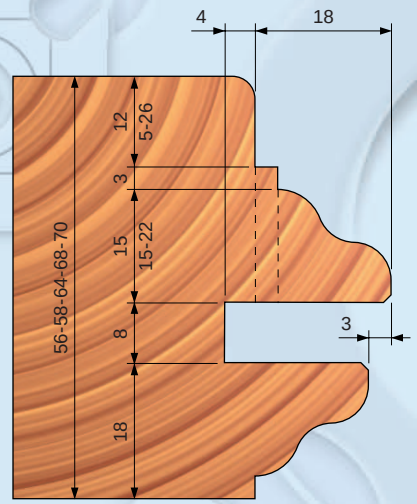
COLTELLI PER UTENSILI / KNIVES FOR CUTTERHEADS: **ST12M HC3**
ST12M HA3

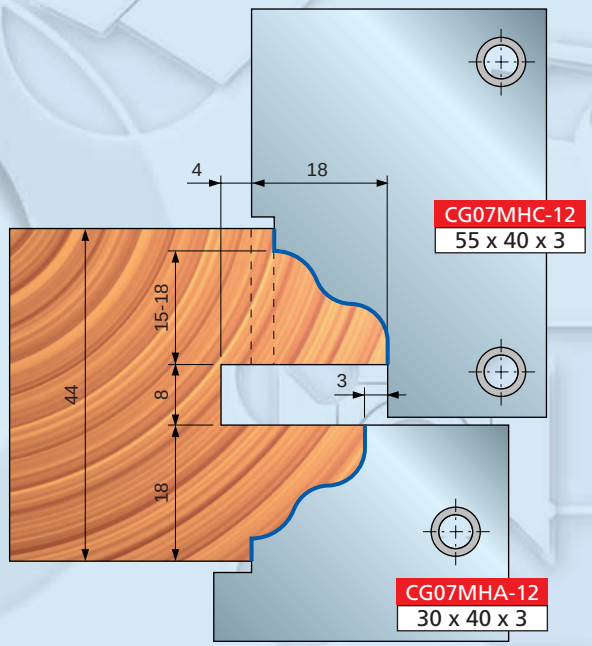
PROFILO / PROFILE **11**



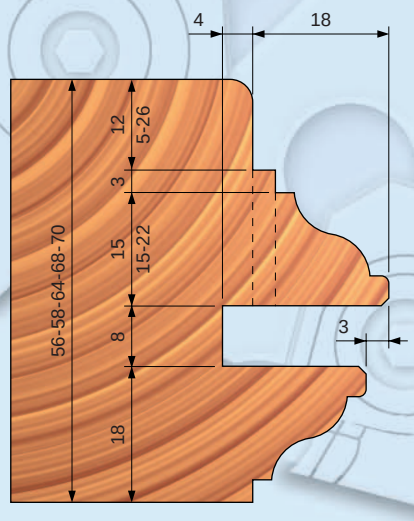


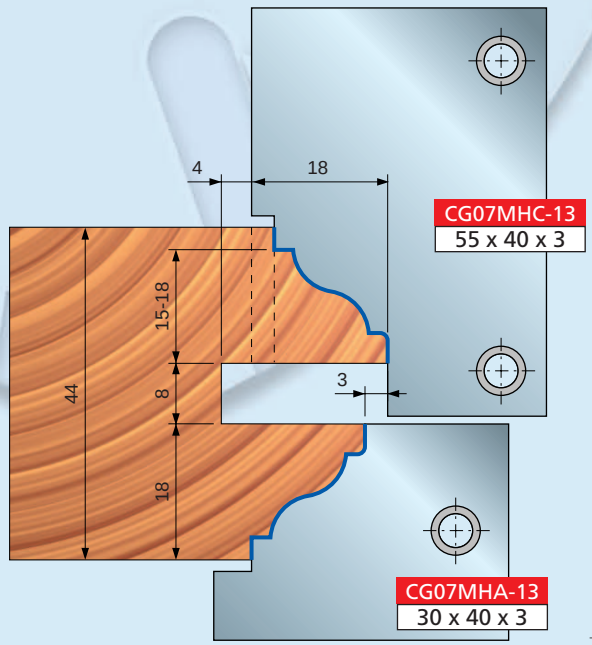
PROFILO / PROFILE **12**





PROFILO / PROFILE **13**



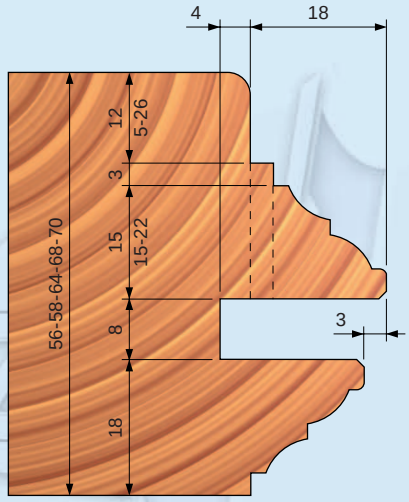


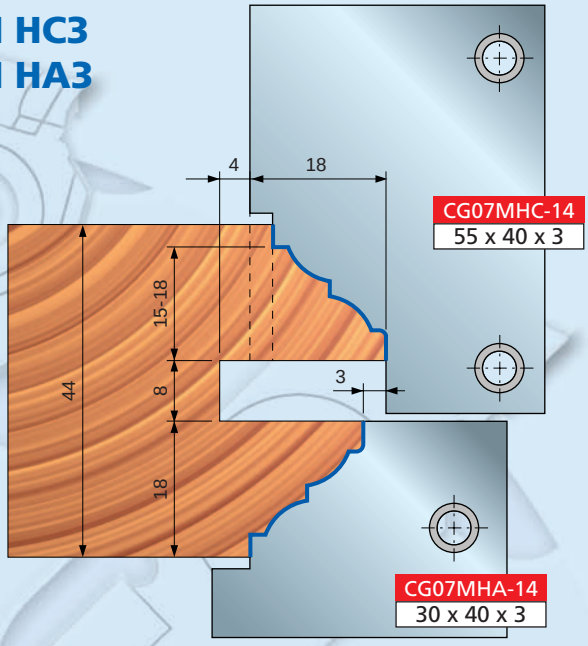
ST12MG

PROFILI SENZA RAGGIATURA ESTERNA
PROFILES WITHOUT EXTERNAL ROUNDING

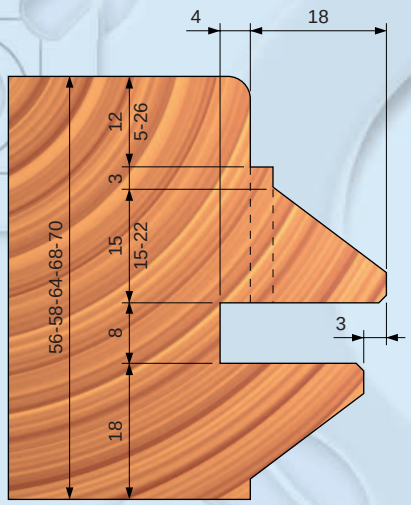
COLTELLI PER UTENSILI / KNIVES FOR CUTTERHEADS: **ST12M HC3**
ST12M HA3

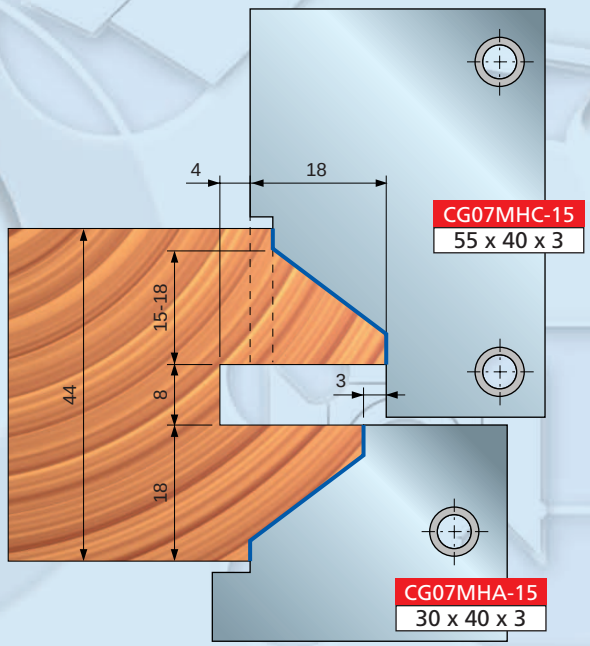
PROFILO / PROFILE **14**



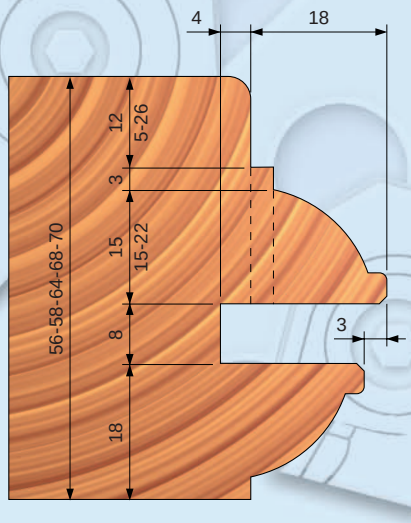


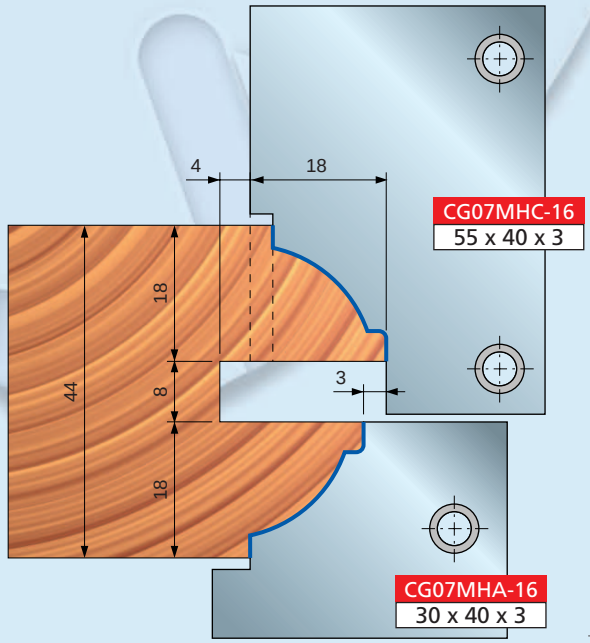
PROFILO / PROFILE **15**





PROFILO / PROFILE **16**





ST12MG

Gruppi per tenoni
Tenoning sets

> **Utensili per gruppi: ST12MG-820, ST12MG-821, ST12MG-822**
> **Tools for ST12MG-820, ST12MG-821, ST12MG-822 sets**

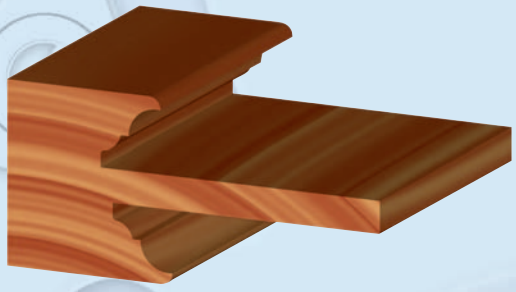
Cod.	D mm	B mm	d mm	Z	R
ST12M DB3	264	8	70	2	6
ST12M HF3	294	26	70	2	4
ST12M HG3	300	26	70	2	4
ST12M HH3	264	30	70	2	4

> Le bussole BF10MD ed i coltelli per gli utensili HF3 e HG3 vanno ordinati a parte.
> BF10MD sleeves and knives for cutterheads HF3 and HG3 are not included.

GRUPPO / SET **ST12MG-820**

> Esempio di controprofilo con spina semplice ottenibile con il gruppo **ST12MG-820** (vedi pagina seguente).

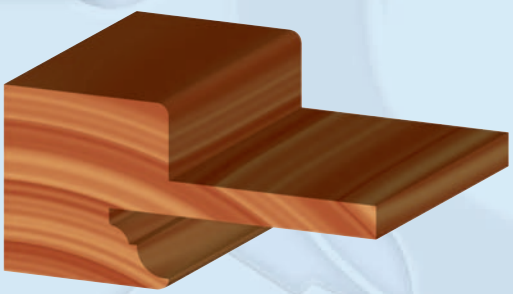
> Example of scribe with single tenon, obtainable with **ST12MG-820** set (see following page).



GRUPPO / SET **ST12MG-821**

> Esempio di controprofilo con spina semplice ottenibile con il gruppo **ST12MG-821** (vedi pagina seguente).

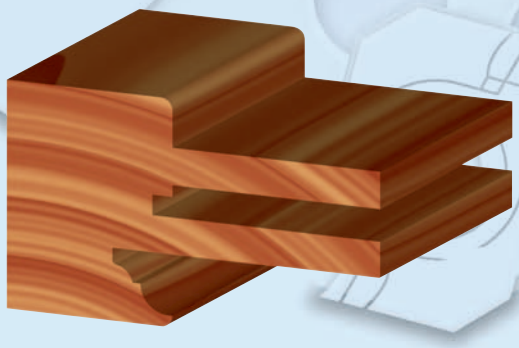
> Example of scribe with single tenon, obtainable with **ST12MG-821** set (see following page).



GRUPPO / SET **ST12MG-822**

> Esempio di controprofilo con spina doppia ottenibile con il gruppo **ST12MG-822** (vedi pagina seguente).

> Example of scribe with double tenon, obtainable with **ST12MG-822** set (see following page).



	Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
DB3	CG06M HA3	Coltello / Knife	7,6 x 12 x 1,5
	CN09M DA9	Cuneo / Wedge	15 x 7,2 x 8
	VT11M AA9	Vite / Screw	M5 x 19
	RG02M AA3	Rasante / Spur	22,86 x 2,5
	SR01MS AA3	Settore dentato / Grooving insert	40 x 5 x 8
	VT01M AA9	Vite / Screw	M6 x 10
	VT18M BB9	Ghiera / Nut	11,7 x 2,5 x 4
	VT05M BD9	Vite / Screw	M4 x 6,5
	VT05M AC9	Vite / Screw	M5 x 6
HF3	VT08M AE9	Vite / Screw	M5 x 7 x 16
	CN07M HF9	Cuneo / Wedge	21 x 38 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	IG05MD AA3	Inserto rasante / Spur insert	40 x 4 x 7
	VT16M AB9	Vite / Screw	M6 x 11,5
	IG52M AE3	Inserto raggiatore / Rounding insert	22 x 16 x 5
	VT16M AA9	Vite / Screw	M6 x 14,5
HG3	VT08M AE9	Vite / Screw	M5 x 7 x 16
	CN07M HG9	Cuneo / Wedge	21 x 38 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	IG05MS AA3	Inserto rasante / Spur insert	40 x 4 x 7
	VT16M AB9	Vite / Screw	M6 x 11,5
	IG52M AE3	Inserto raggiatore / Rounding insert	22 x 16 x 5
	VT16M AA9	Vite / Screw	M6 x 14,5
HH3	CG06M DA3	Coltello / Knife	30 x 12 x 15
	CN09MS AD9	Cuneo / Wedge	15 x 26 x 8
	VT20M MA9	Ogiva / Nut	15 x 13,3 x 10
	VT19M MA9	Vite / Screw	M10 x 22
	RG02M AA3	Rasante / Spur	22,86 x 2,5
	VT05M AA9	Vite / Screw	M5 x 8
	IG52M AE3	Inserto raggiatore / Rounding insert	22 x 16 x 5
	VT16M AE9	Vite / Screw	M6 x 13
	CN03M BA9	Supporto / Serrated support	14 x 21,5 x 22
	CN03M BB9	Cuneo / Wedge	28 x 9,5 x M8
	VT19M BB9	Vite / Screw	M8 x 22

Cod. Bussole / Sleeves	Dimensioni Dimensions
BF10MD ED9	Ø70 x 90 x 50
BF10MD EC9	Ø70 x 90 x 40
BF10MD EB9	Ø70 x 90 x 35

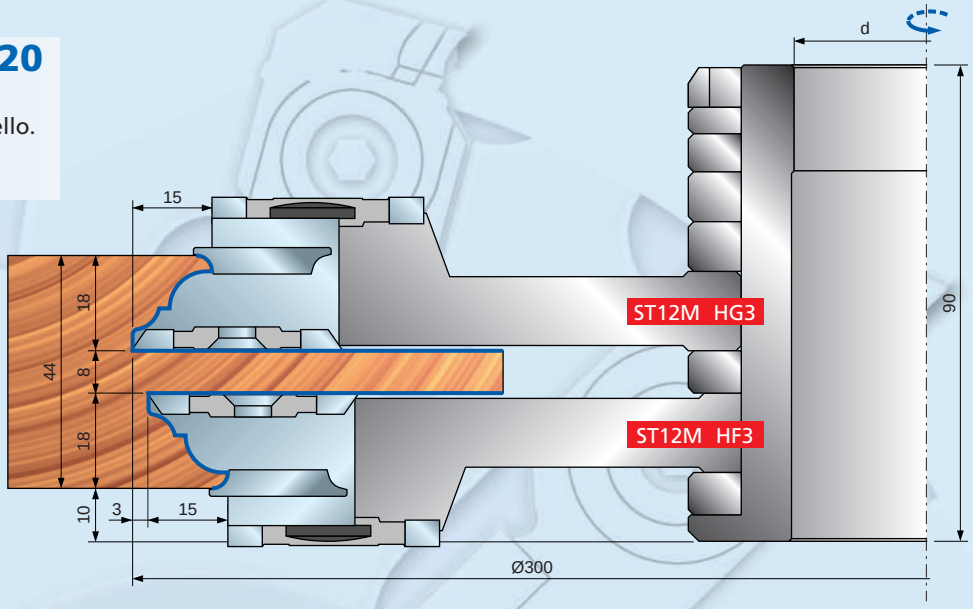
ST12MG

GRUPPI PER TENONI
TENONING SETS

GRUPPO / SET **ST12MG-820**

> Spina semplice.
Per profilo senza recupero del listello.

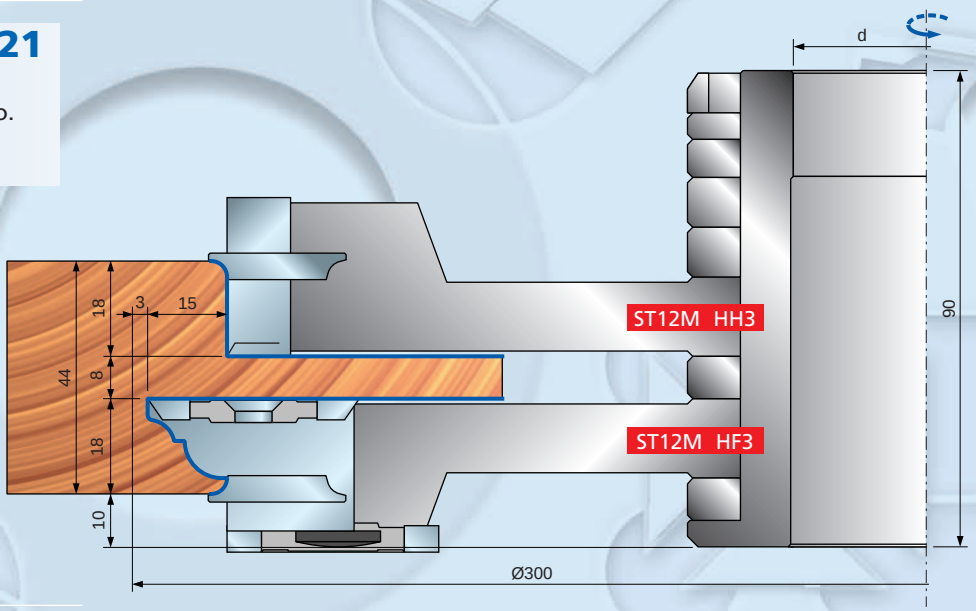
> Single tenon.
For profile without bead recovery.



GRUPPO / SET **ST12MG-821**

> Spina semplice.
Per profilo con recupero del listello.

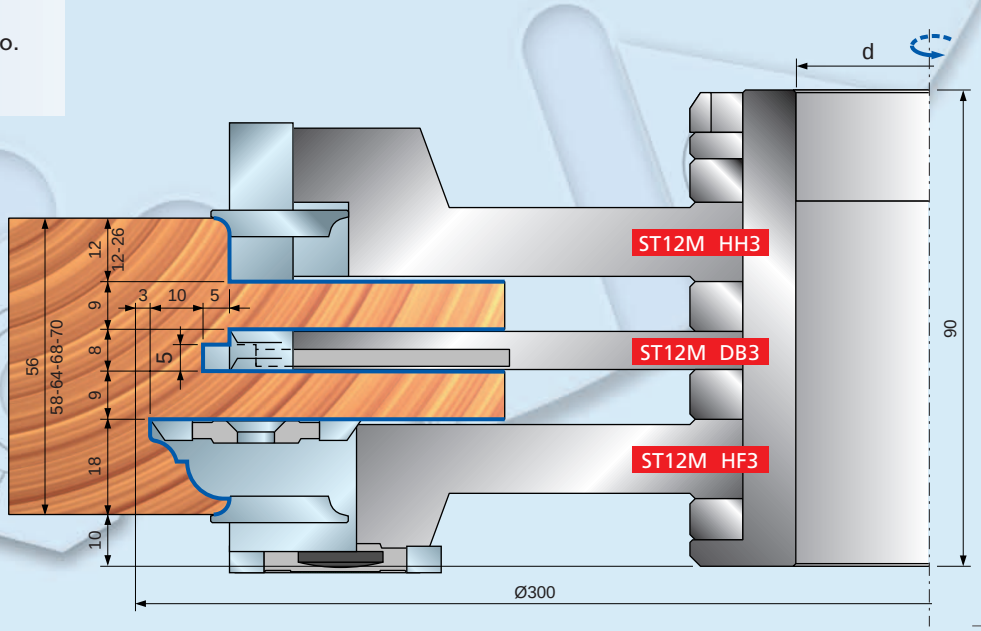
> Single tenon.
For profile with bead recovery.



GRUPPO / SET **ST12MG-822**

> Spina doppia.
Per profilo con recupero del listello.

> Double tenon.
For profile with bead recovery.

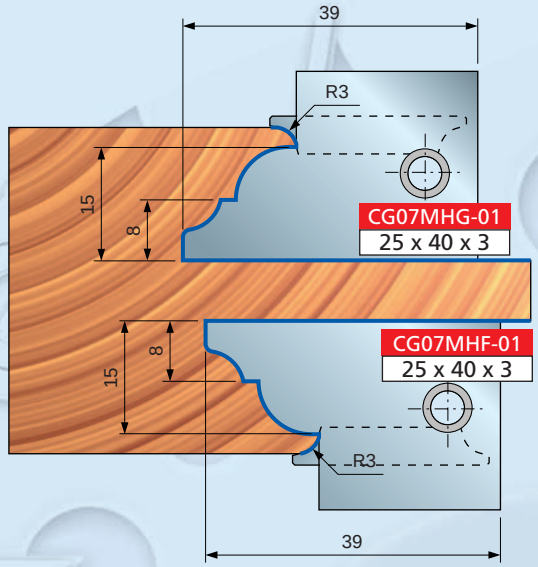


ST12MG

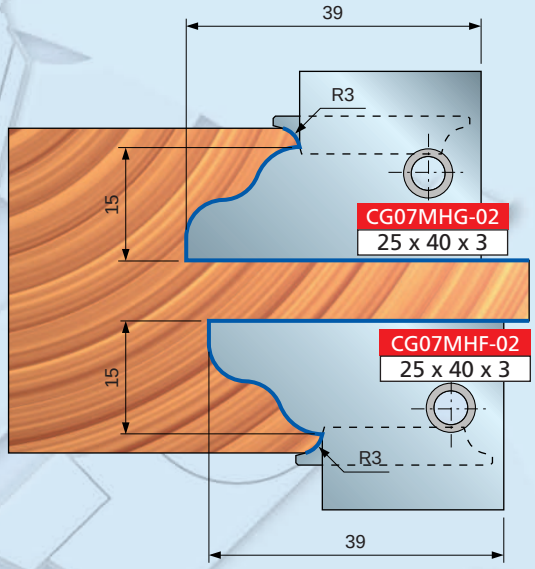
PROFILI CON RAGGIATURA ESTERNA DA 3 mm
PROFILES WITH 3 mm EXTERNAL ROUNDING

COLTELLI PER UTENSILI / KNIVES FOR CUTTERHEADS: **ST12MG HG3**
ST12MG HF3

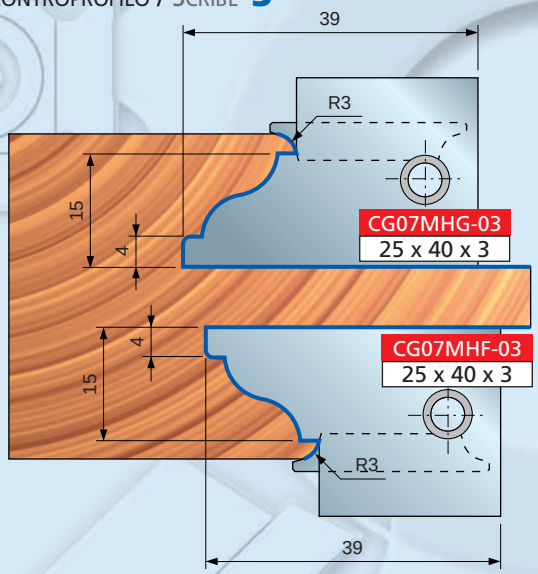
CONTROPROFILO / SCRIBE **1**



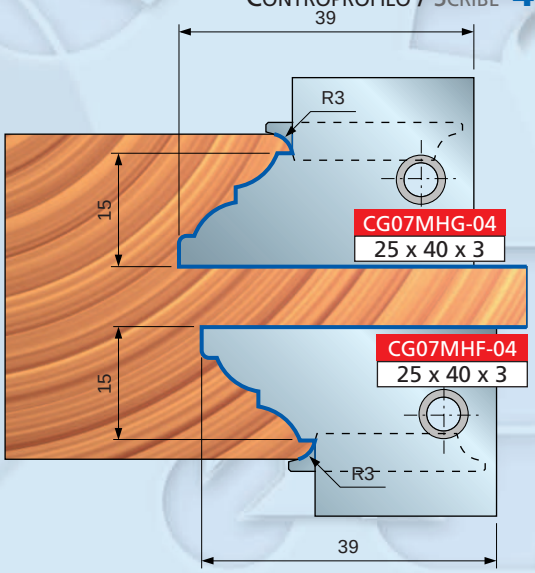
CONTROPROFILO / SCRIBE **2**



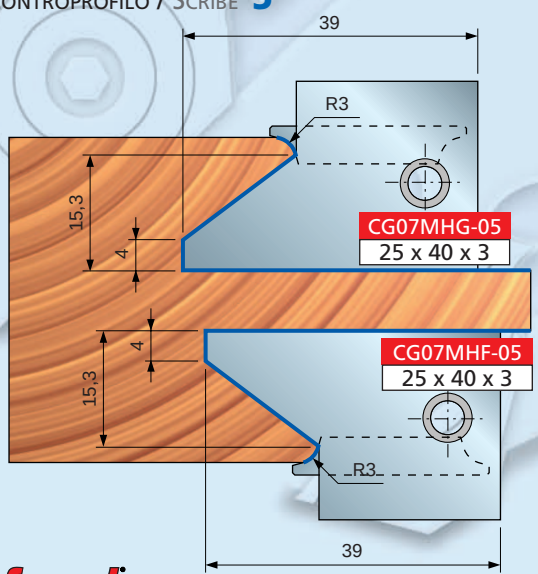
CONTROPROFILO / SCRIBE **3**



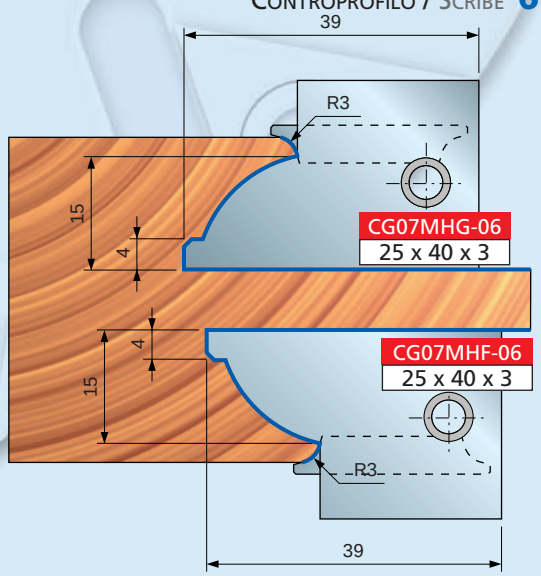
CONTROPROFILO / SCRIBE **4**



CONTROPROFILO / SCRIBE **5**



CONTROPROFILO / SCRIBE **6**

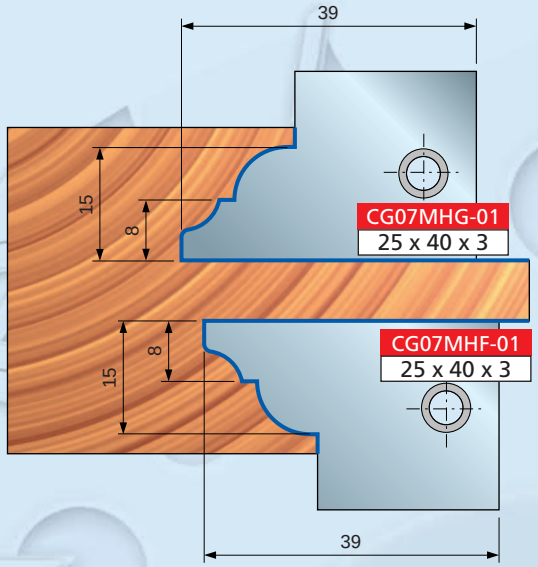


ST12MG

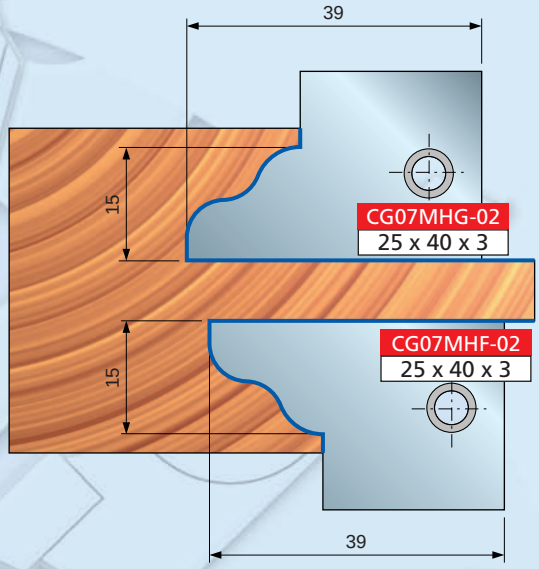
PROFILI SENZA RAGGIATURA ESTERNA
PROFILES WITHOUT EXTERNAL ROUNDING

COLTELLI PER UTENSILI / KNIVES FOR CUTTERHEADS: **ST12MG HG3**
ST12MG HF3

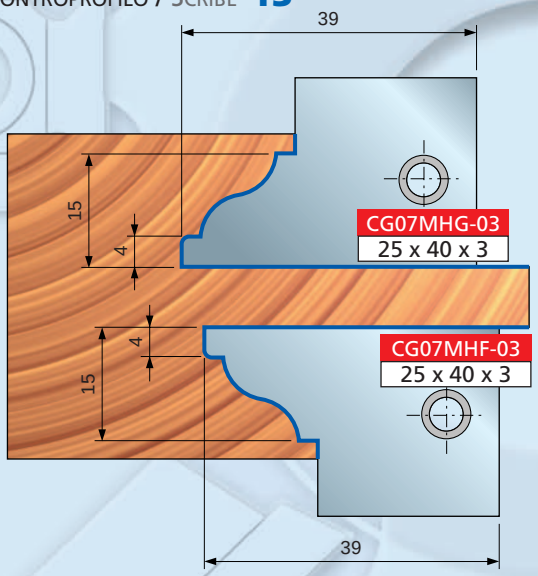
CONTROPROFILO / SCRIBE **11**



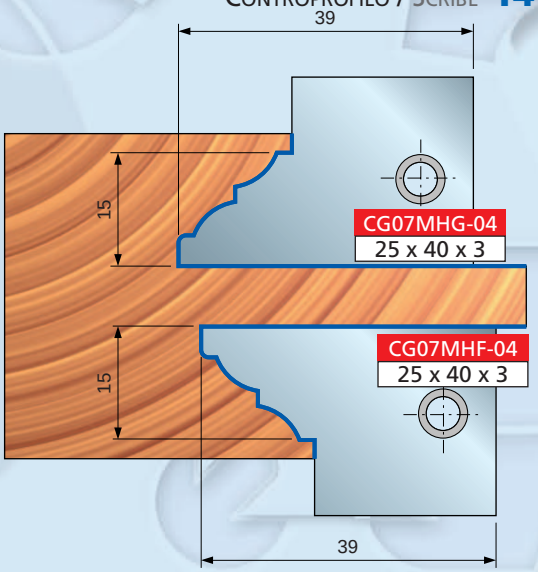
CONTROPROFILO / SCRIBE **12**



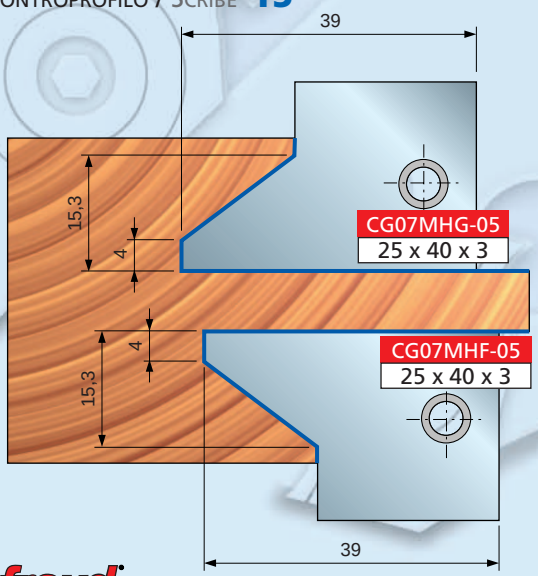
CONTROPROFILO / SCRIBE **13**



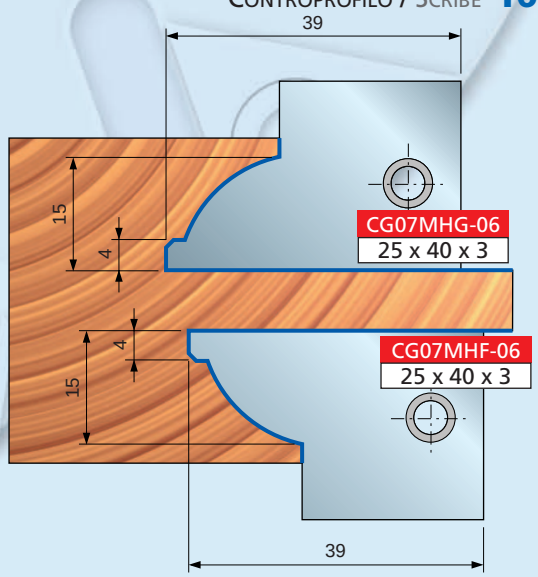
CONTROPROFILO / SCRIBE **14**



CONTROPROFILO / SCRIBE **15**

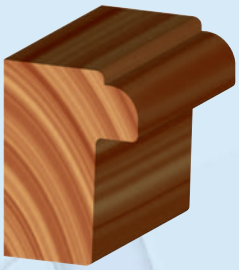


CONTROPROFILO / SCRIBE **16**



ST12MG

Utensili per battute di porte
Tools for door rebates



Cod. Bussole / Sleeves	Dimensioni Dimensions
BF10MD ED9	Ø70 x 90 x 50
BF10MD EC9	Ø70 x 90 x 40
BF10MD EB9	Ø70 x 90 x 35

> **Utensili per gruppi: ST12MG-840, ST12MG-841, ST12MG-842**
> **Tools for ST12MG-840, ST12MG-841, ST12MG-842 sets**

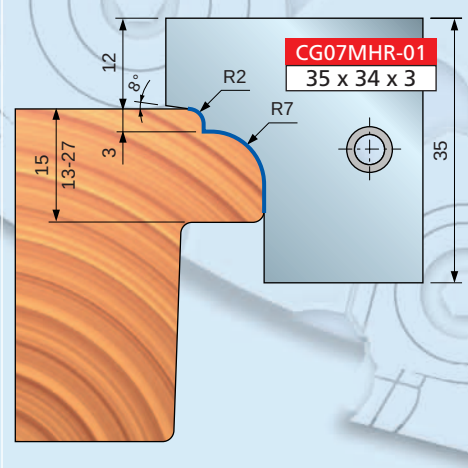
Cod.	D mm	B mm	d mm	Z	R
ST12M HL3	161,8	41	70	2	4
ST12M HM3	147	33	70	2	2
ST12M HN3	140	30	70	2	2
ST12M HR3	166	35	70	2	

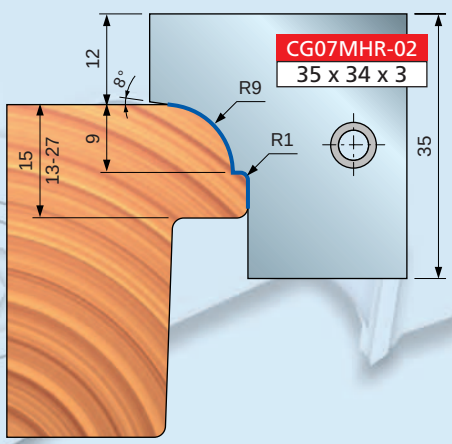
> Le bussole BF10MD ed i coltelli per gli utensili HR3 vanno ordinati a parte.
> BF10MD sleeves and knives for cutterheads HR3 are not included.

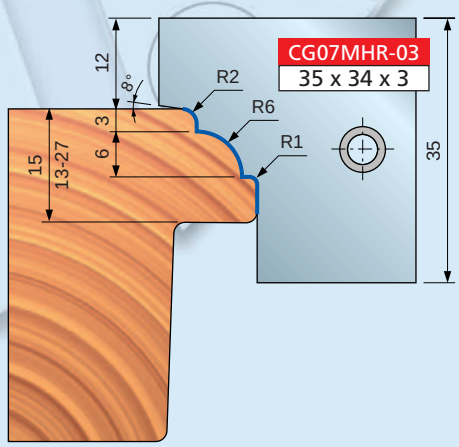
	Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
HL3	CG01M LA3	Coltello / Knife	40 x 12 x 1,5
	CN09MD AR9	Cuneo / Wedge	15 x 36 x 8
	VT19M MA9	Vite / Screw	M10 x 22
	VT20M NA9	Ogiva / Nut	15 x 13,3 x 10
	IG25MD 103	Rasante raggiatore / Multipurpose insert	10
	2622M CB9	Vite / Screw	M6 x 10
	IG52M AB3	Inserto raggiatore / Rounding insert	22 x 16 x 5
	VT16M AE9	Vite / Screw	M6 x 13
	CN03M BA9	Supporto / Serrated support	14 x 21,5 x 22
	CN03M BB9	Cuneo / Wedge	28 x 9,5 x 8
	VT19M BB9	Vite / Screw	M8 x 22
HM3 - HN3	CG01M EA3	Coltello / Knife	30 x 12 x 1,5
	CN09MD AD9	Cuneo / Wedge	15 x 26 x 8
	VT19M MA9	Vite / Screw	M10 x 22
	VT20M NA9	Ogiva / Nut	15 x 13,3 x 10
	IG52M AB3	Inserto raggiatore / Rounding insert	22 x 16 x 5
	VT16M AE9	Vite / Screw	M6 x 13
	CN03M BA9	Supporto / Serrated support	14 x 21,5 x 22
	CN03M BB9	Cuneo / Wedge	28 x 9,5 x 8
	VT19M BB9	Vite / Screw	M8 x 22
HR3	CN07M HR9	Cuneo / Wedge	30,7 x 33 x 8
	VT03M CC9	Vite / Screw	M10 x 18
	VT08M AE9	Vite / Screw	M5 x 7 x 16

ST12MG

Coltelli per utensile ST12M HR3
Knives for cutterhead ST12M HR3



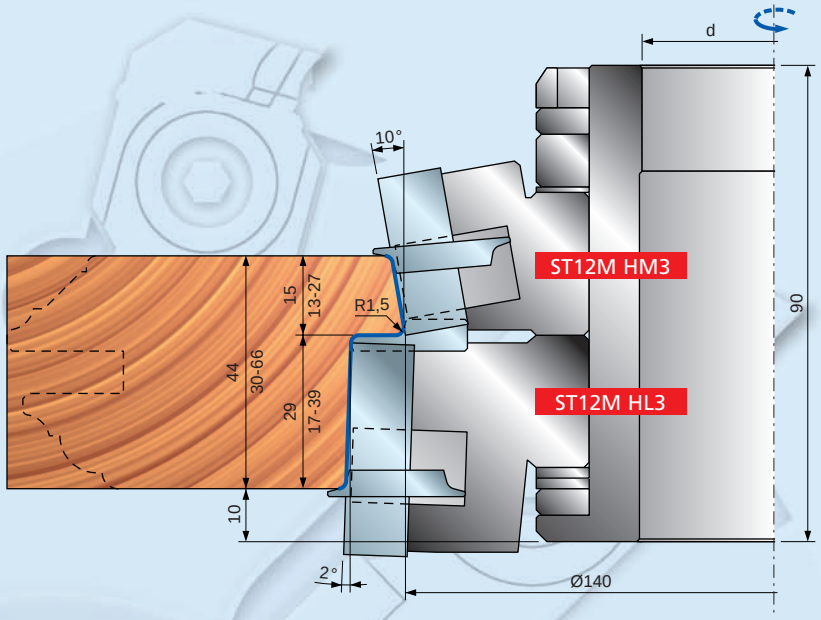




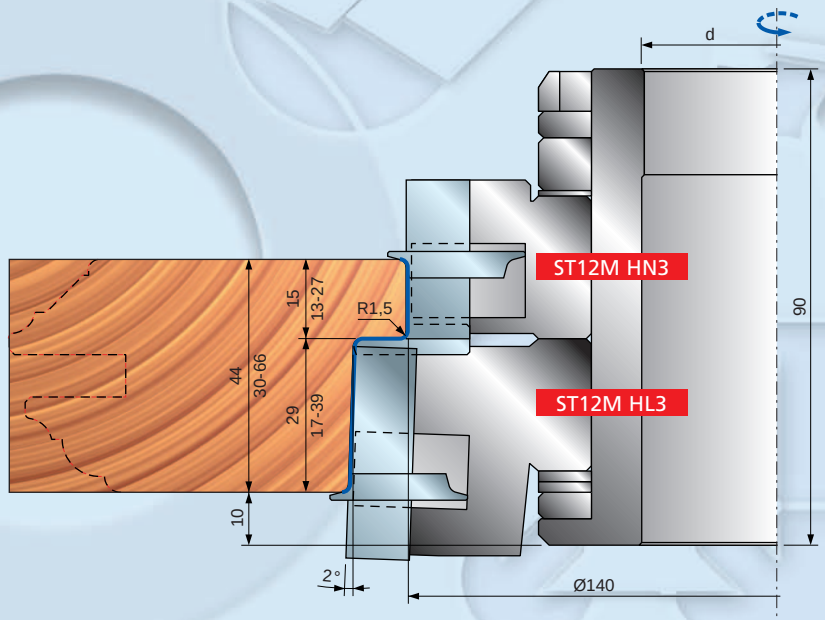
ST12MG

UTENSILI PER BATTUTE DI PORTE
TOOLS FOR DOORS' OUTSIDE PROFILES

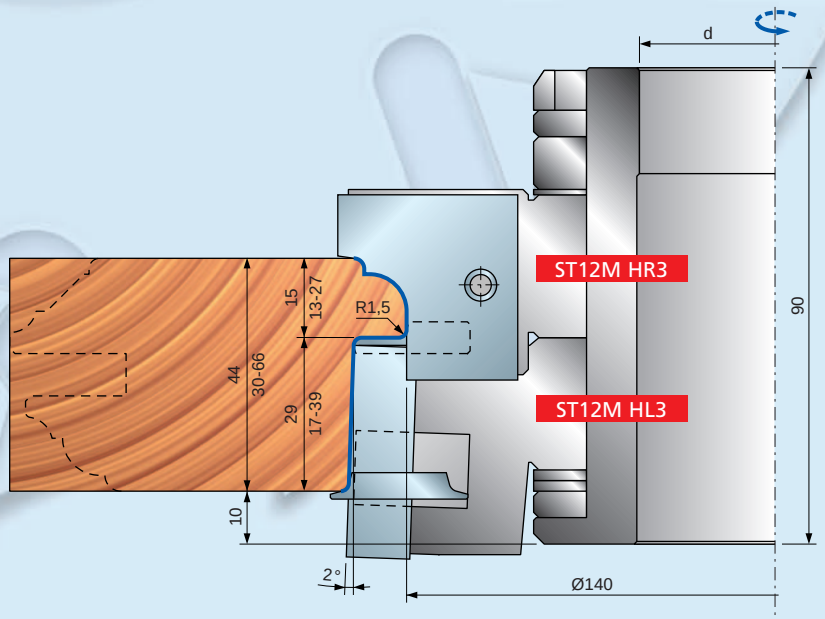
GRUPPO / SET **ST12MG-840**



GRUPPO / SET **ST12MG-841**



GRUPPO / SET **ST12MG-842**



ST12MG

Utensili per recupero listello
Bead recovery tool set

> **Utensili per gruppi: ST12MG-302**
> **Tools for ST12MG-302 set**

Cod.	D mm	B mm	d mm	Z	I
ST12M CG3	144	13,5	60		4

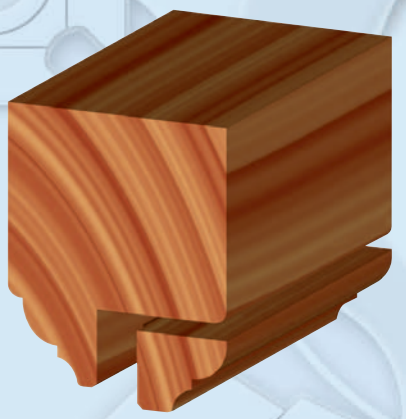
Cod.	Parti di ricambio • Spare parts	Dimensioni • Dimensions
LL02M20060	Lama / Sawblade	200 x 3 x 60 Z34
VT01M AA9	Vite / Screw	M6 x 10
IG52M AE3	Inserto raggiatore / Rounding insert	22 x 16 x 5
VT16M AA9	Vite / Screw	M6 x 14,5
IG23MD AE3	Inserto raggiatore / Rounding insert	18 x 26 x 8,5
VT16M AD9	Vite / Screw	M6 x 15,5

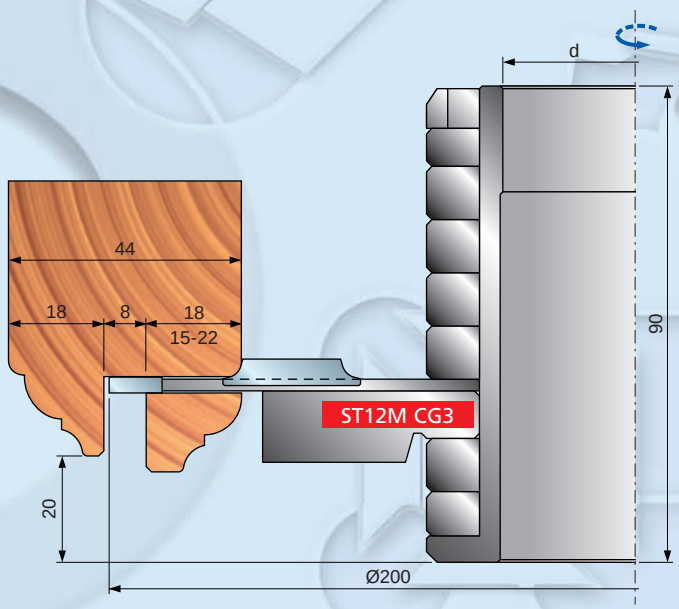
Cod. Bussole / Sleeves	Dimensioni Dimensions
BF10MD DD9	Ø60 x 90 x 50
BF10MD DC9	Ø60 x 90 x 40
BF10MD DB9	Ø60 x 90 x 35

> La bussola BF10MD non è inclusa.
> Sleeve BF10MD not included.

GRUPPO / SET **ST12MG-302**

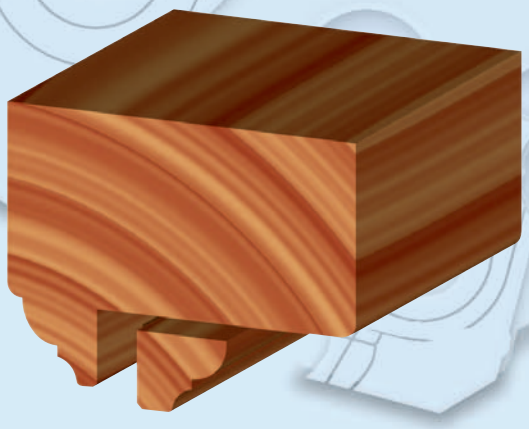
> Spessore 44 mm con raggiatore.
> 44 mm thickness with rounding insert.

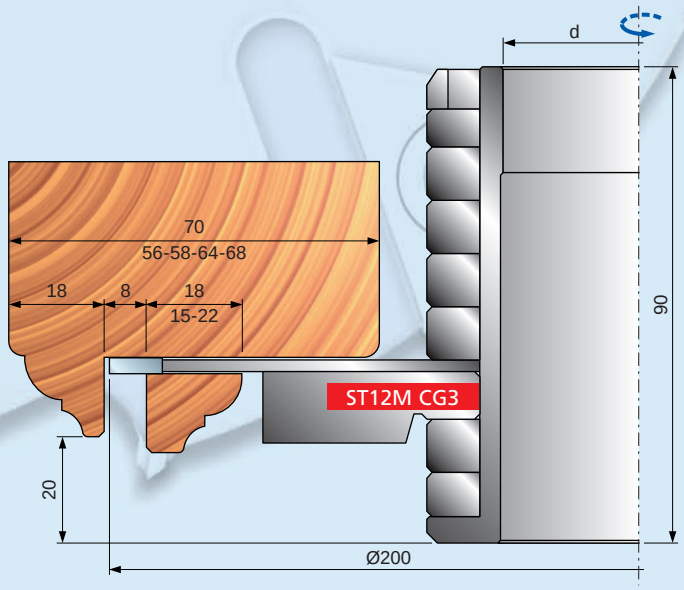




GRUPPO / SET **ST12MG-302**

> Spessore 56 - 58 - 64 - 68 - 70 mm senza raggiatore.
> 56 - 58 - 64 - 68 - 70 thicknesses without rounding insert.





ARCOM 100

ATTREZZATURA PER ESEGUIRE SERRAMENTI AD ARCO
DEVICE FOR MANUFACTURING ARCHED WINDOWS

- DESCRIZIONE:
  La caratteristica principale dell'ARCOM è la possibilità di disegnare l'arco che si vuole realizzare: ciò consente di apportare eventuali modifiche al progetto prima di procedere con la produzione. La struttura di questa macchina consente la massima versatilità senza pregiudicarne la precisione.
- COMPOSIZIONE: il sistema **Multiarc** (cod. ARCOM 100) viene fornito completo di:

KTO1M030	Elettrofresatrice (2000 W - 220 V / 50 Hz con pinza Ø 12 mm)
ARCOM B09	Set di cilindretti per regolazione angoli
CP67M 1203	Set di punte profilate per fresatura e taglio.

- DATI TECNICI: (in dotazione viene fornito il manuale tecnico di uso e manutenzione)

Raggio grande massimo	2050 mm
Raggio piccolo massimo	900 mm
Raggio piccolo minimo	200 mm
Angolo al centro massimo	α 180°
Angolo al centro - divisione minima	α 5°

- ACCESSORI: su richiesta vengono forniti anche i seguenti accessori:

ARCOM C01	Calibri per rilevamento misure arco
ARCOM M01	Morsetti per assemblaggio elementi.

- DESCRIPTION:
  The main feature of the ARCOM is the possibility to draw the arch that is to be obtained so that eventual changes can be made before the workpiece is cut. The machine is designed to offer maximum versatility without compromising its precision.
- WE OFFER: The **MULTIARC** (cod. ARCOM 100) is supplied with:

KTO1M030	Router machine (2000 W - 22 V / 50 Hz with 12 mm collet)
ARCOM M01	Adjustable pin set
CP67M 1203	Router bit set for routing and cutting.

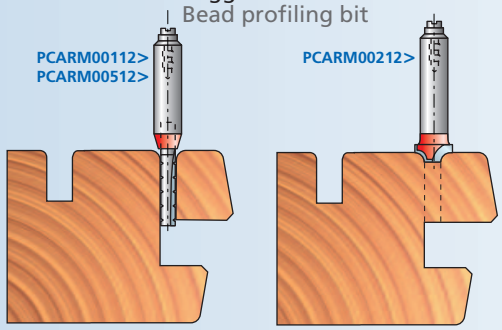
- FEATURES: (the device is supplied with instructions and servicing manual)

Maximum large radius	2050 mm
Maximum small radius	900 mm
Minimum small radius	200 mm
Maximum cutting angle	α 180 degrees
Minimum cutting angle	α 5 degrees

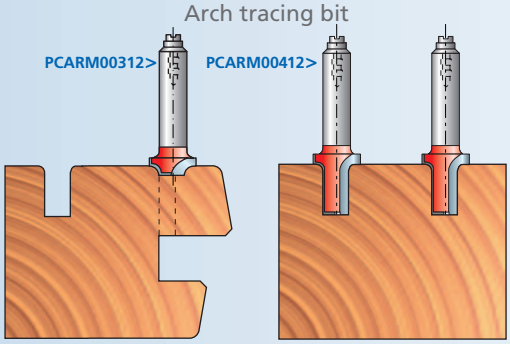
- OPTIONAL: On request, the following accessories can be supplied:

ARCOM C01	Callipers for arch measuring
ARCOM M01	Clamps for workpiece assembly.

> **PCARM00112:** Taglio del listello 20 mm
> 20 mm bead recovery bit
> **PCARM00512:** Taglio del listello 28 mm
> 28 mm bead recovery bit
> **PCARM00212:** Raggiatura del listello
> Bead profiling bit

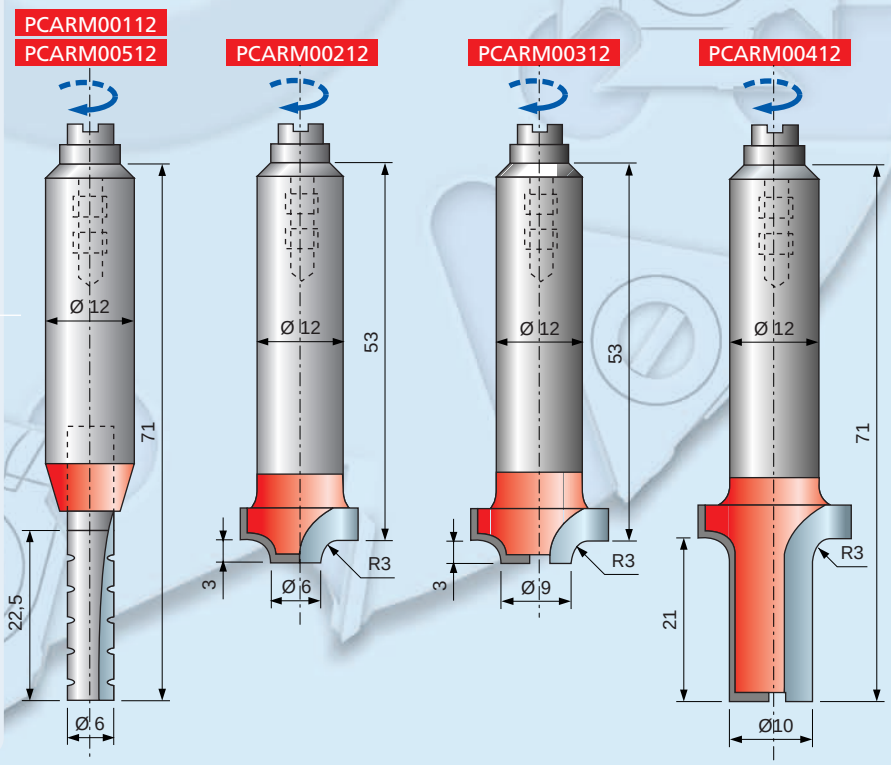


> **PCARM00312:** Raggiatura del listello
> Bead profiling bit
> **PCARM00412:** Tracciatura dell'arco
> Arch tracing bit



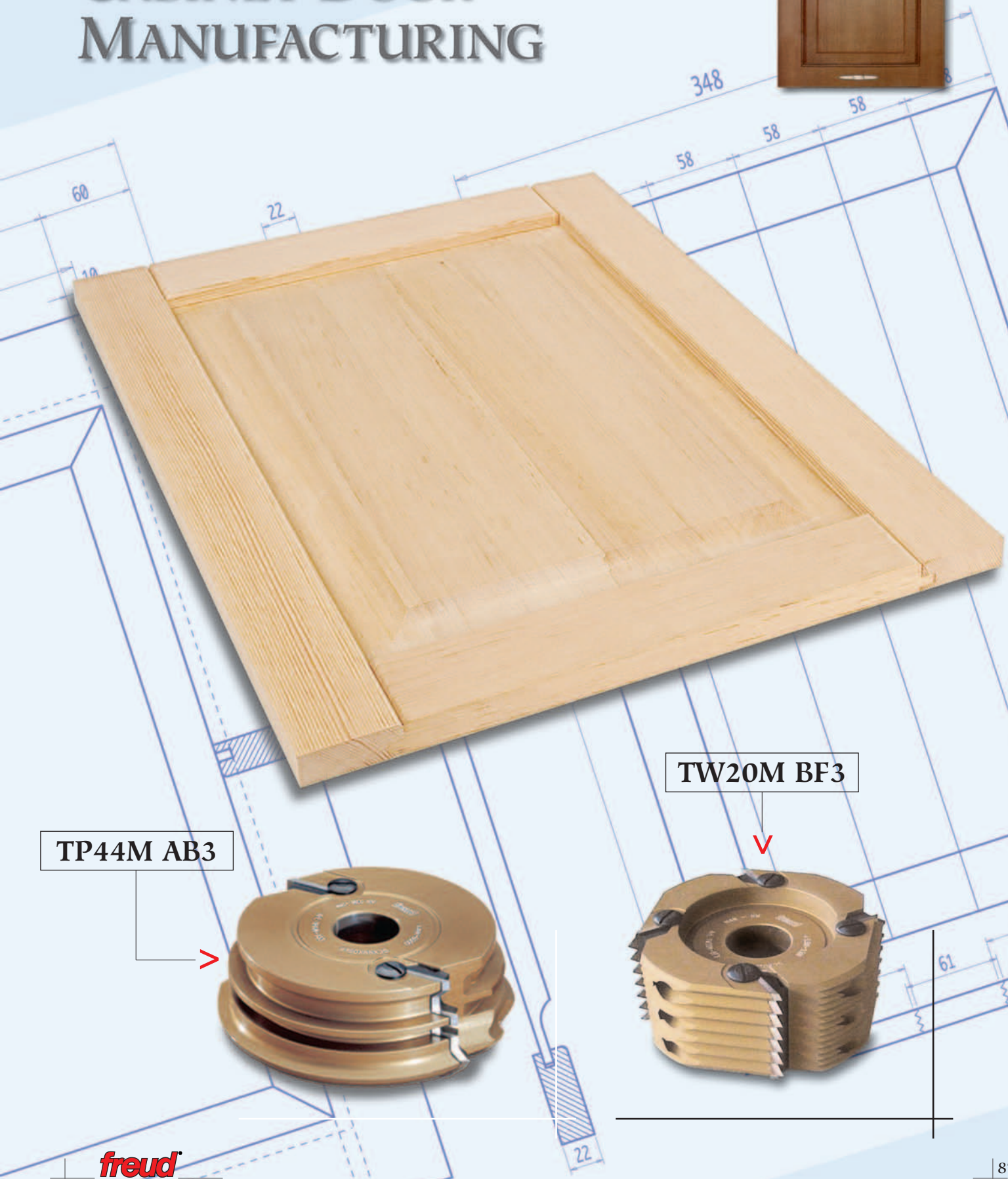
CP67M 1203

CASSETTA DI QUATTRO PUNTE
FOUR ROUTER BIT SET



Costruzione di un' Antina

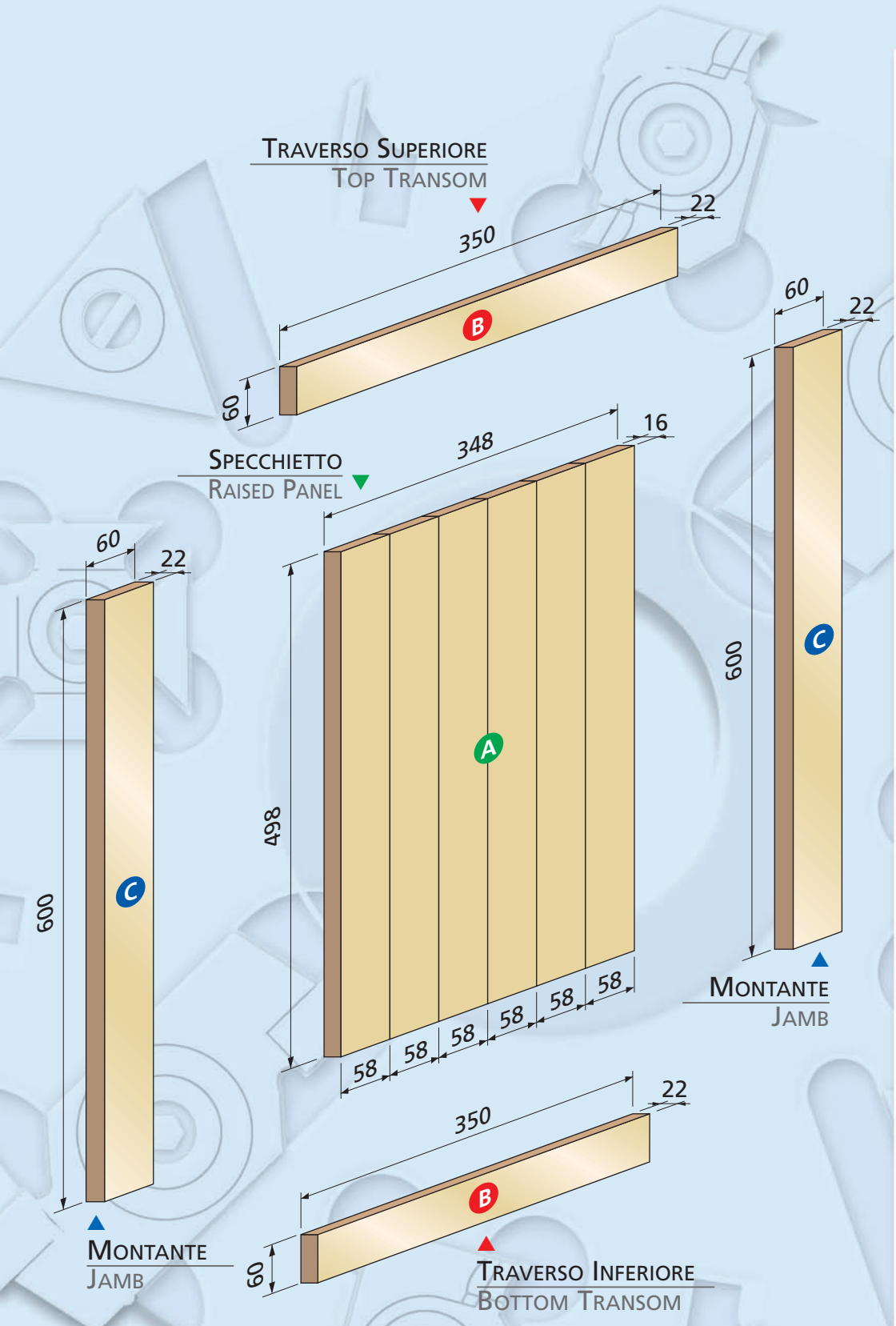
Cabinet Door Manufacturing



TW20M BF3

TP44M AB3

Progetto dell'Antina
The Cabinet Door Project

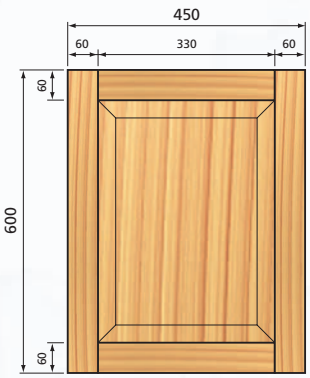


Il progetto che vi proponiamo prevede la costruzione di una antina delle misure di 450 x 600 x 22 mm, realizzata con legno douglas.
Per la realizzazione preparare dei listelli di legno perfettamente squadrati delle seguenti misure:

- **A** per lo **Specchietto:** n. 6 listelli 58 x 498 x 16 mm;
- **B** per i **Traversi:** n. 2 listelli 350 x 60 x 22 mm;
- **C** per i **Montanti:** n. 2 listelli 60 x 600 x 22 mm;

Per la lavorazione utilizzare i seguenti utensili freud :

art. **TW20M BF3**;
art. **TP44M AB3 + CP44M AA3**



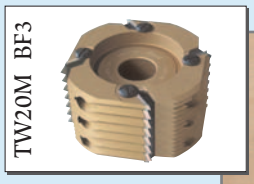
> *L'antina assemblata*
> *Assembled cabinet door*

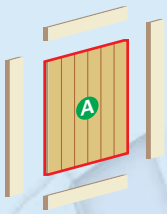
The project we propose entails the construction of a cabinet door measuring 450 x 600 x 22 mm with douglas wood. For the realization of this project prepare some perfectly sized panels with the following measurements.

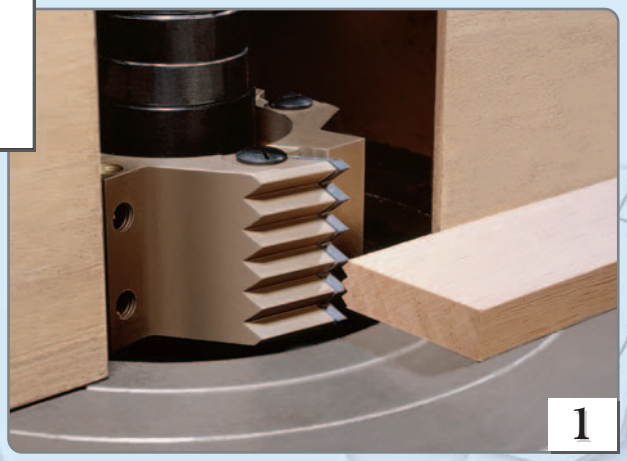
- **A** for the **Raised Panel:** 6 panels 58 x 498 x 16 mm;
- **B** for the **Top & Bottom Transoms:** 2 panels 350 x 60 x 22 mm;
- **C** for the **Jambs:** 2 panels 60 x 600 x 22 mm;

For wood machining use the following freud tools:

cod. **TW20M BF3**;
cod. **TP44M AB3 + CP44M AA3**







A Specchietto dell'Antina

- PRIMA FASE -

Giunzioni

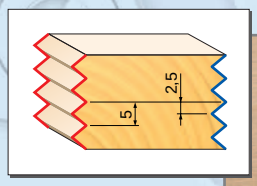
Come prima fase di lavorazione preparare il pannello per lo specchietto dell'antina. Inserire sulla toupie la testa portacoltelli per giunzioni **TW20M BF3** e fresare 5 dei 6 listelli da 58 x 498 x 16 mm solo su un lato, lungo vena.

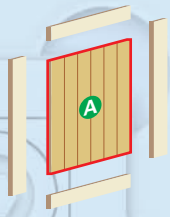
A Raised Panel

- FIRST PHASE -

Joining One Side

To prepare the inner raised panel, take 6, 58 x 498 x 16 mm pieces.
With the **TW20M BF3** finger-joint cutterhead on the spindlemoulder, mould 5 of the 6 pieces on one side only, long grain.





A Specchietto dell'Antina

- SECONDA FASE -

Giunzioni

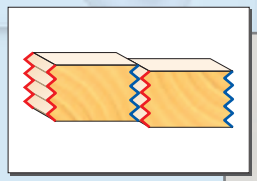
Successivamente inserire l'anello distanziale di spessore 2,5 mm fornito in dotazione con la testa portacoltelli **TW20M BF3.**
Riprendere quattro dei listelli lavorati precedentemente, piú l'unico non lavorato ed eseguire la seconda fresatura sull'altro lato, lungo vena.

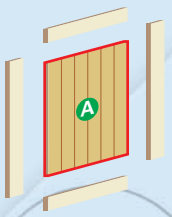
A Raised Panel

- SECOND PHASE -

Joining Two Sides

Now insert the 2,5 mm spacer, supplied with the **TW20M BF3** fingerjoint cutterhead.
Take 4 of the previously worked panels and carry out the second moulding on the opposite side, long grain. Now take the unworked panel and carry out a single moulding on one side, along the grain.





A Specchietto dell'Antina

- TERZA FASE -

Assemblaggio

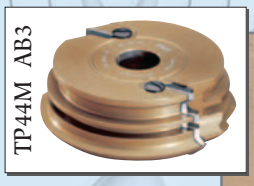
Assemblare ed incollare i listelli lavorati tenendoli uniti con un morsetto. Per una maggiore tenuta del pannello, aver cura di disporre i listelli in modo tale che al momento della giunzione la venatura degli stessi sia contraria.

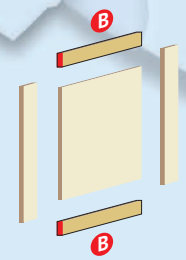
A Raised Panel

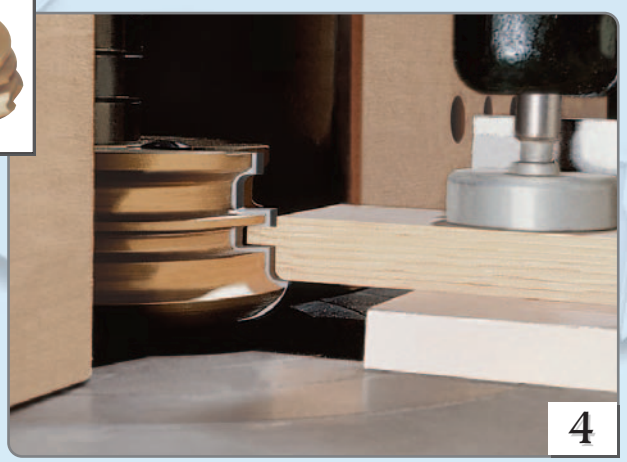
- THIRD PHASE -

Assembly

Assemble and glue the panels holding them together with a clamp. In order to obtain a better grip insure that at the moment of joining, the grain of each panel is facing the opposite direction.







B Traversi

- PRIMA FASE -

Tenonatura

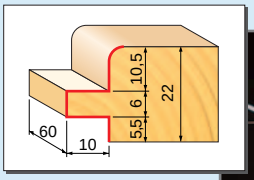
Per la realizzazione dei traversi, utilizzare la testa portacoltelli Freud **TP44M AB3.**
Lavorare i due listelli da 350 x 60 x 22 mm su uno dei lati corti, come illustrato nella Fig. 4.

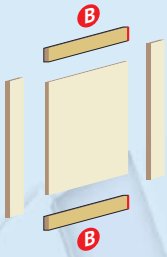
B Transoms

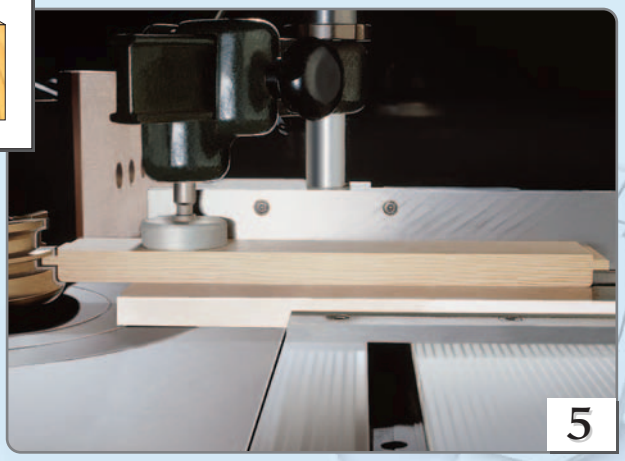
- FIRST PHASE -

Tenoning

For the realization of the transoms use the Freud multiprofile cutterhead **TP44M AB3.**
Work the short side of two of the 350 x 60 x 22 mm panels as illustrated in Fig. 4.







> B **TRAVERSI**

- SECONDA FASE -

TENONATURA

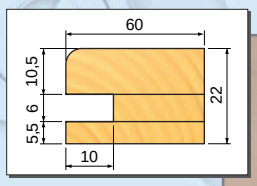
Come illustrato nella Fig. 5, compiere la medesima operazione sull'altro lato corto dei due listelli, avendo cura di appoggiarli sul piano di lavoro sempre sullo stesso lato.

> B **TRANSOMS**

- SECOND PHASE -

TENONING

As illustrated in (Fig. 5), complete the same operation on the other short side of the two panels, making sure you always place them the same way up on the work surface.



> B **TRAVERSI**

- TERZA FASE -

PROFILATURA

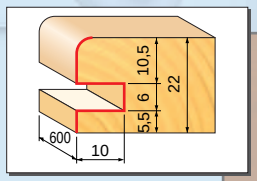
Abbassare la testa portacoltelli in modo da far combaciare la spina del tagliente con il tenone eseguito sui traversi (Fig. 6). Eseguire il profilo su tutta la lunghezza dei due traversi (su uno dei lati lunghi, come illustrato).

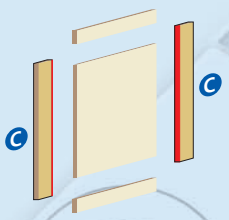
> B **TRANSOMS**

- THIRD PHASE -

PROFILING

Lower the cutterhead so as the blades spine may coincide with the tenon (Fig. 6). Carry out the profiling along the entire length of the two transoms (on one of the length sides as illustrated).





> C **MONTANTI**

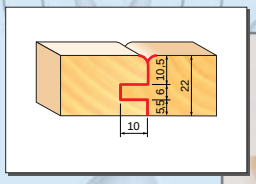
PROFILATURA

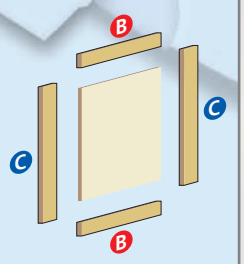
Mantenendo la testa portacoltelli sempre alla stessa altezza, realizzare la profilatura dei due montanti (listelli da 60 x 600 x 22 mm) su uno dei lati lunghi, come illustrato nella Fig. 7.

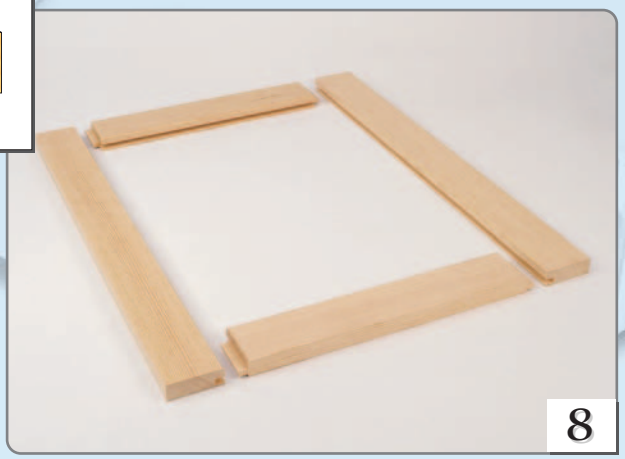
> C **JAMBS**

PROFILING

Prepare two 600 x 60 x 22 mm panels.
Always maintaining the cutterhead at the same height, carry out the profiling of one lenght side of each jamb, as illustrated in Fig. 7.

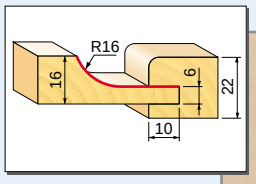


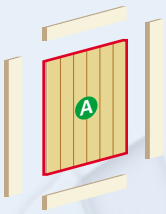




> Abbiamo ottenuto i traversi ed i montanti. Se avete eseguito correttamente le precedenti operazioni, avrete ottenuto lo stesso risultato illustrato nella Fig. 8.

> We now have our transoms and jambs.
If you have correctly followed the previous instructions you will have obtained the same results as illustrated in Fig. 8.





A Specchietto dell'Antina

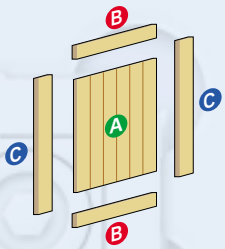
Profilatura

Riprendere i listelli assemblati ed incollati precedentemente per eseguire la profilatura dello specchietto dell'antina.
Alzare la testa portacoltelli **TP44M AB3** in modo da lavorare il pannello con la parte inferiore del coltello profilato, come illustrato nella Fig. 9. Eseguire la lavorazione sui quattro lati, avendo l'accortezza di lavorare per primi i due lati traverso vena.

A Raised Panel

Profiling

Take the previously glued and assembled panels (see Fig. 3) in order to carry out the profiling on the raised panel.
Lift the **TP44M AB3** so you can work the panel with the lower part of the profiled cutterhead, as illustrated in Fig. 9.
Work all four sides making sure you work the cross grain sides first.

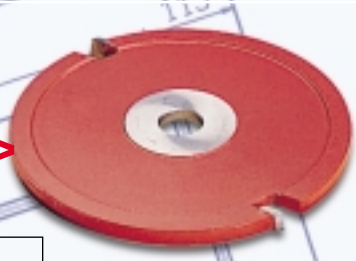


La Fig. 10 mostra i pezzi ottenuti eseguendo le semplici lavorazioni descritte.

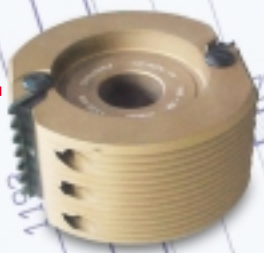
Fig. 10 shows the final piece obtained by following these simple instuctions.

L'antina assemblata.
Assembled cabinet door.

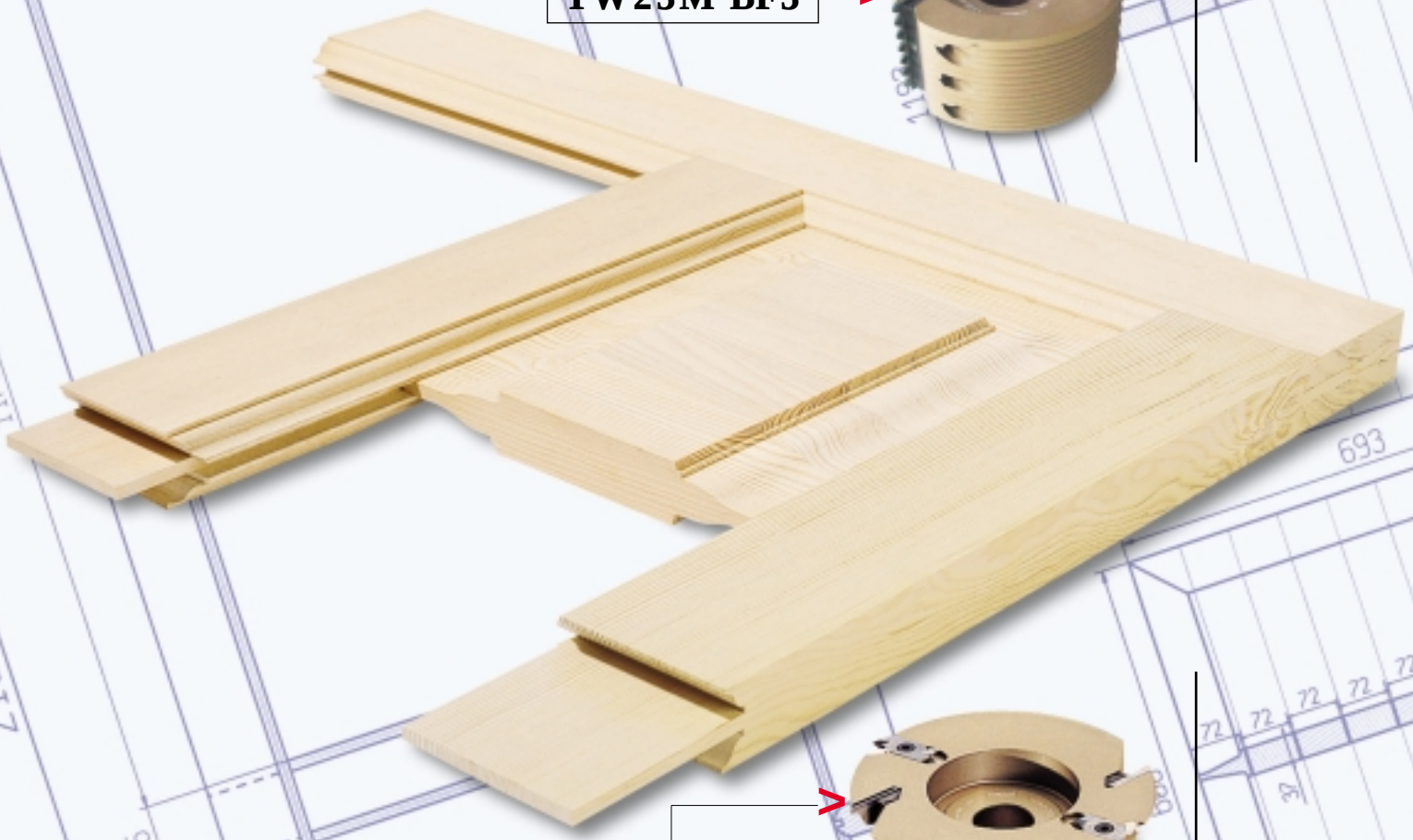
COSTRUZIONE DI UNA PORTA
DOOR MANUFACTURING



Fresa per tenoni
Tenoning brazed cutter



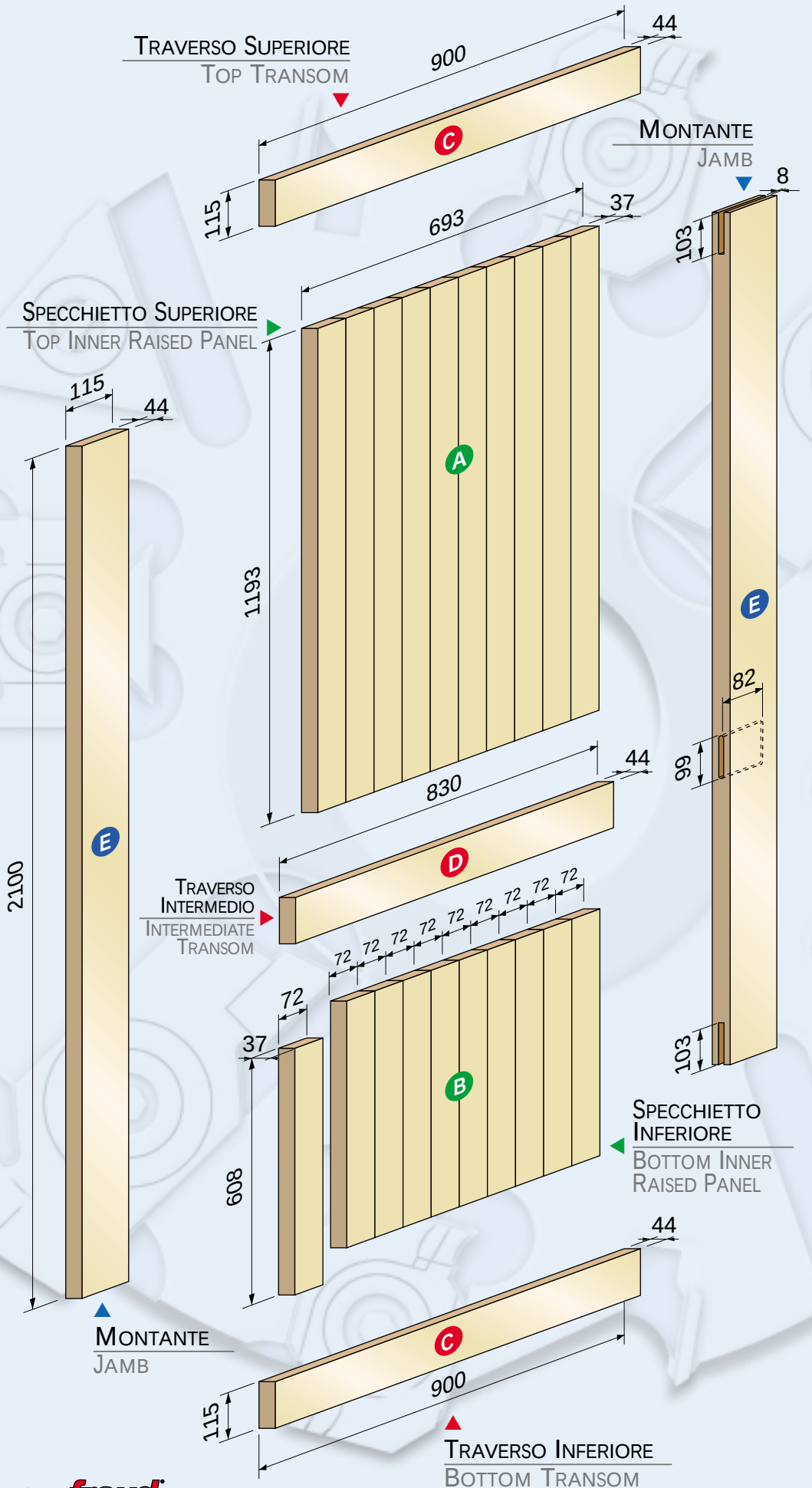
TW23M BF3



TP42M AB3

TD52M HB3

PROGETTO DELLA PORTA
THE DOOR PROJECT

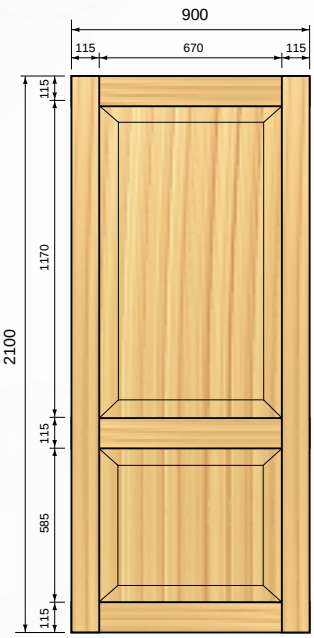


Il nostro progetto riguarda la costruzione di una porta da 2100 x 900 x 44 mm, in legno Douglas.
Per realizzare questo progetto è necessario preparare dei pannelli perfettamente finiti, con le seguenti dimensioni:

- **A** per lo **SPECCHIETTO SUPERIORE:** n. 10 listelli da 72 x 1193 x 37 mm;
- **B** per lo **SPECCHIETTO INFERIORE:** n. 10 listelli da 72 x 608 x 37 mm;
- **C** per i **TRAVERSI SUPERIORE E INFERIORE:** n. 2 listelli da 115 x 900 x 44 mm;
- **D** per il **TRAVERSO INTERMEDIO:** n. 1 pezzo da 115 x 830 x 44 mm;
- **E** per i **MONTANTI:** n. 2 listelli da 115 x 2100 x 44 mm.

Per la lavorazione utilizzare i seguenti utensili freud :

art. **TW23M BF3;**
art. **TP42M AB3** + **CP42M CA3;**
art. **TD52M HB3** + **CT52M TB3**
più una fresa per tenoni e una punta per mortasare.



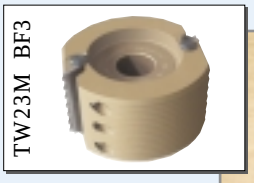
> *La porta assemblata*
> *Assembled door*

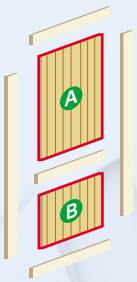
Our project entails the assembling of a 2100 x 900 x 44 mm door in Douglas wood. In order to do so you must prepare a number of perfectly finished wood panels with the following dimensions:

- **A** for the **TOP INNER RAISED PANEL:** no. 10, 72 x 1193 x 37 mm pieces;
- **B** for the **BOTTOM INNER RAISED PANEL:** no. 10, 72 x 608 x 37 mm pieces;
- **C** for the **TOP AND BOTTOM TRANSOMS:** no. 2, 115 x 900 x 44 mm pieces;
- **D** for the **INTERMEDIATE TRANSOM:** no. 1, 115 x 830 x 44 mm piece;
- **E** for the **JAMBS:** no. 2, 115 x 2100 x 44 mm pieces;

For wood machining use a mortising bit, a tenonig brazed cutter and the following freud tools:

cod. **TW23M BF3;**
cod. **TP42M AB3** + **CP42M CA3;**
cod. **TD52M HB3** + **CT52M TB3.**





> Come prima fase di lavorazione preparare i due pannelli per gli specchietti superiore (A) e inferiore (B) della porta. Inserire sulla toupie la testa portacoltelli per giunzioni cod. **TW23M BF3.**

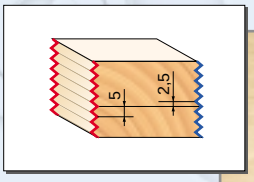
A **Specchietto Superiore**
Lavorare solo su un lato 9 listelli dei 10 disponibili da 72 x 1193 x 37 mm.

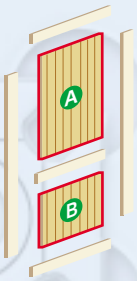
B **Specchietto Inferiore**
Lavorare solo su un lato 9 listelli dei 10 disponibili da 72 x 608 x 37 mm.

> First of all prepare the top (A) and bottom (B) inner raised door panels. Mount the finger joint cutterhead item code **TW23M BF3** on the spindle moulder.

A **Top Inner Raised Panel**
Work 9 of the 10, 72 x 1193 x 37 mm pieces on one side only.

B **Bottom Inner Raised Panel**
Work 9 of the 10, 72 x 608 x 37 mm pieces on one side only.





> Inserire sull'albero della toupie l'anello distanziale di spessore 2,5 mm, fornito con la testa portacoltelli cod. **TW23M BF3.**

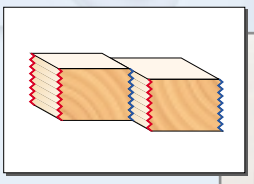
A **Specchietto Superiore**
Riprendere 8 dei 9 pezzi precedentemente utilizzati, più l'unico listello da 72 x 1193 x 37 mm non lavorato ed eseguire la seconda fresatura sull' altro lato.

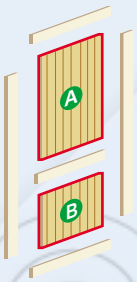
B **Specchietto Inferiore**
Riprendere 8 dei 9 pezzi precedentemente utilizzati, più l'unico listello da 72 x 608 x 37 mm non lavorato ed eseguire la seconda fresatura sull'altro lato.

> Position the 2,5 mm spacer, supplied with cutterhead item code **TW23M BF3.**

A **Top Inner Raised Panel**
Take 8 of the 9 previously machined 72 x 1193 x 37 mm pieces, plus the only non worked one and carry out the second moulding on the opposite side.

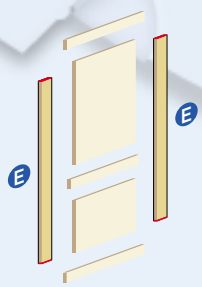
B **Bottom Inner Raised Panel**
Take 8 of the 9 previously machined 72 x 608 x 37 mm pieces and the only non worked one and carry out the second moulding on the opposite side.





> Assemblare ed incollare i listelli lavorati tenendoli uniti con un morsetto. Per una maggiore tenuta del pannello, fin dall'inizio disporre i listelli in modo tale che, al momento della giunzione, siano posizionati con venatura contraria, in modo alternato (vedi Foto 3).

> Assemble and glue together all the machined pieces, holding them tightly together with a clamp. When joining the pieces together, make sure you lay them out so as they show opposite and alternate wood grains (Fig. 3).

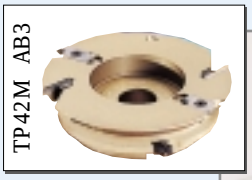


> Posizionare sulla toupie la fresa per tenoni.

E **Tenoni Femmina dei Montanti**
Utilizzare 2 listelli da 115 x 2100 x 44 mm.
Realizzare su entrambe le estremità dei due listelli le sedi per i tenoni dei traversi superiore ed inferiore.
La profondità di lavorazione sarà di 103 mm, per uno spessore di 8 mm.

> Position the tenonig brazed cutter onto the spindle moulder.

E **Jambs Grooving Tenons**
Take 2, 115 x 2100 x 44 mm pieces.
Now groove each end of the top and bottom jambs. Working depth must be 103 mm and 8 mm thick.



> Montare i coltelli alla testa multiprofili per porte cod. **TP42M AB3.** Posizionare correttamente l'utensile sulla toupie.

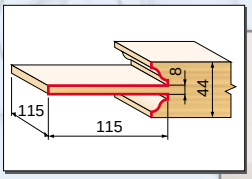
C **Traversi Superiore e Inferiore**
Utilizzare 2 listelli da 115 x 900 x 44 mm.

- PRIMA FASE -
Tenonatura
Eseguire una passata su un lato traverso vena dei due listelli.

> Fix the knives onto the multiprofile cutterhead for doors (item code **TP42M AB3**) and correctly position it onto the spindle moulder.

C **Top and Bottom Transoms**
Take. 2, 115 x 900 x 44 mm pieces.

- FIRST PHASE -
Tenoning
Work one side, cross grain of the two pieces.

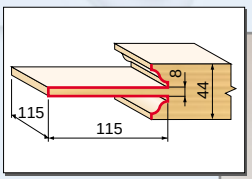


> C **Traversi Superiore e Inferiore**

- SECONDA FASE -
Tenonatura
Girare i listelli di 180° ed eseguire una passata sullo stesso lato traverso vena lavorato precedentemente.

> C **Top and Bottom Transoms**

- SECOND PHASE -
Tenoning
Turn the pieces upside down and work the same side cross grain again, as previously done.

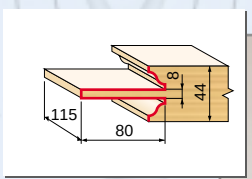


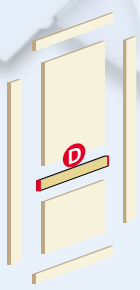
> C **Traversi Superiore e Inferiore**

- TERZA E QUARTA FASE -
Tenonatura
Riprendere i due listelli fresati precedentemente e ripetere, sul lato opposto traverso vena di ciascun pezzo, le medesime lavorazioni descritte ai punti 5 e 6.

> C **Top and Bottom Transoms**

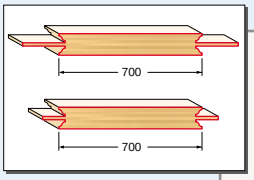
- THIRD AND FOURTH PHASES -
Tenoning
Take the two previously moulded pieces and repeat the same operation cross grain, on the opposite side of each one, as described in steps 5 - 6.

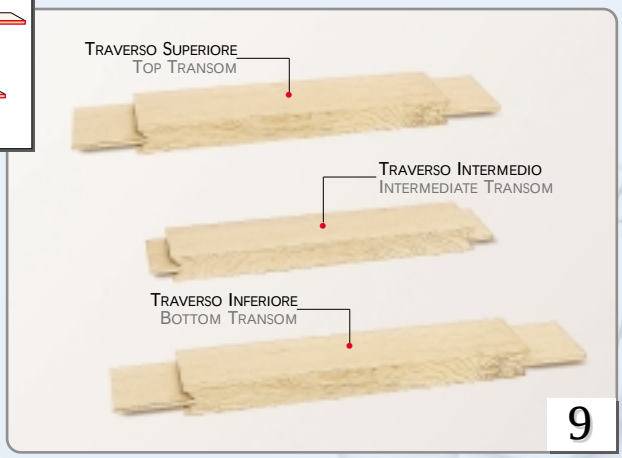




> D **Traverso Itermedio**
Utilizzare 1 listello da 115 x 830 x 44 mm.
Tenonatura
Sui due lati traverso vena ripetere le lavorazioni descritte ai punti 5 - 6 - 7.

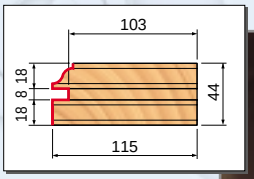
> D **Intermediate Transom**
Take 1, 115 x 830 x 44 mm piece.
Tenoning
On both sides cross grain, perform the same operations as described in steps 5 - 6 - 7.





> Nella foto a fianco compaiono i tre traversi della porta, su quali è stato realizzato il controprofilo con tenone.

> This photo shows the three transoms, with scribe and tenon on both ends.



> C **Traversi Superiore e Inferiore**

- PRIMA FASE -

Profilatura

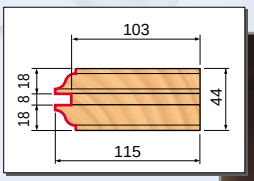
Regolare l'altezza dell'utensile.
Riprendere i traversi superiore e inferiore e profilarli solo su un lato, lungo vena.

> C **Top and Bottom Transoms**

- SECOND PHASE -

Profiling

Adjust the tool height. Take the top and bottom transoms and profile on one side, along the grain.



> C **Traversi Superiore e Inferiore**

- SECONDA FASE -

Profilatura

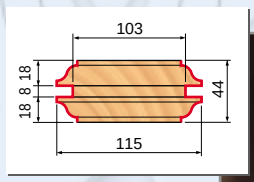
Ruotare i due traversi di 180° (sottosopra) e profilare lo stesso lato che si è lavorato al punto 10.

> C **Top and Bottom Transoms**

- SECOND PHASE -

Profiling

Turn the two transoms upside down and profile the same side as previously worked in step 10.



> D **Traverso Itermedio**

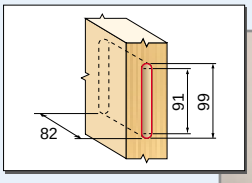
Profilatura

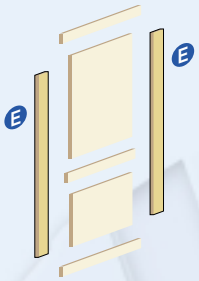
Riprendere il traverso intermedio e ripetere le medesime lavorazioni descritte ai punti 10 e 11 su entrambi i lati, lungo vena.

> D **Intermediate Transom**

Profiling

Take the intermediate transom and repeat the same operations, working both sides along the grain, as in steps 10 and 11.



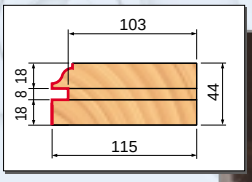


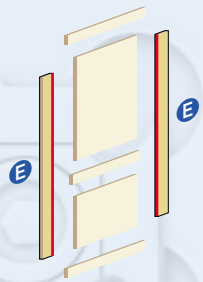
E MONTANTI

Riprendere i due listelli da 115 x 2100 x 44 mm già lavorati su entrambi i lati (vedi punto 4). Con una punta per mortasare con diametro da 8 mm, realizzare la scanalatura che permetterà l'alloggiamento dei tenoni del traverso intermedio.

E JAMBS

Now take the two 115 x 2100 x 44 mm pieces already machined at both ends (see Fig. 4). With an 8 mm mortising bit make a slot which will allow the fixing of the jamb onto the intermediate transom when assembling the door.



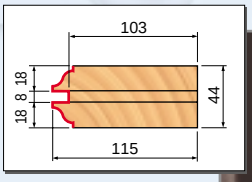


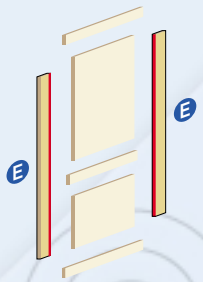
E PROFILATURA DEI MONTANTI

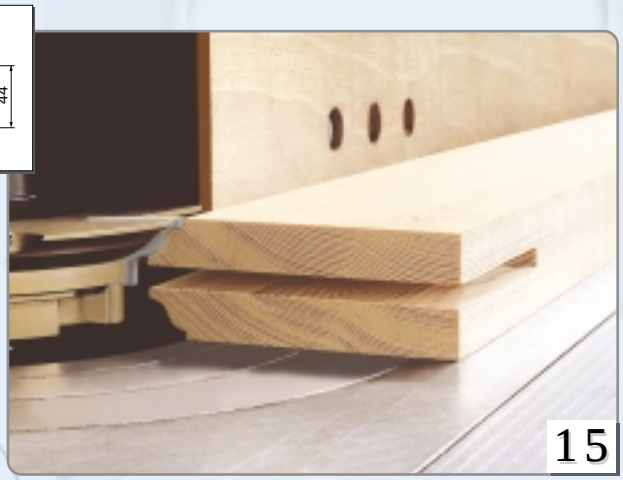
- PRIMA FASE -
Con la testa multiprofili cod. **TP42M AB3**, profilare gli stessi listelli lavorati al punto 13, ciascuno su uno dei lati lunghi, lungo vena.

E JAMBS PROFILNG

- FIRST PHASE -
With multiprofile cutterhead **TP42M AB3,** profile the same pieces as worked in step 13. Machine one side of each piece lenght ways, along the grain.





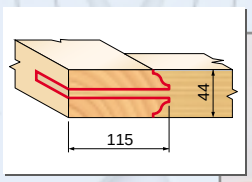


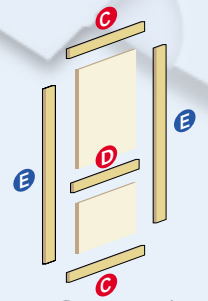
E PROFILATURA DEI MONTANTI

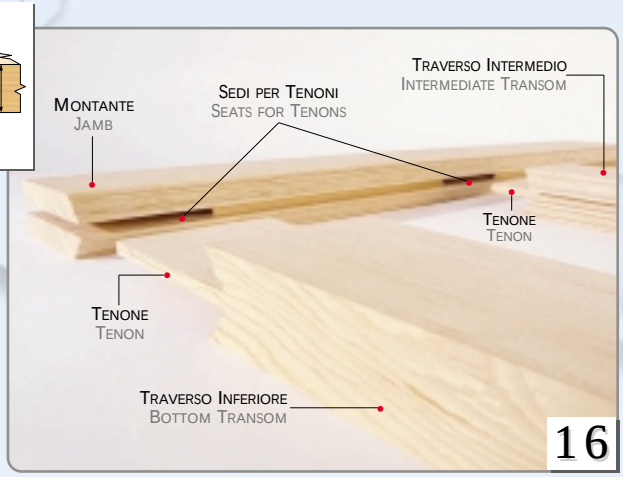
- SECONDA FASE -
Ruotare di 180° (sottosopra) i listelli appena profilati ed eseguire la medesima lavorazione, sempre sullo stesso lato lungo, lungo vena.

E JAMBS PROFILNG

- SECOND PHASE -
Turn the previously machined pieces upside down and carry out the same operation on the same side length ways, along the grain.

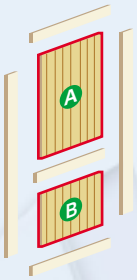






L'immagine a lato evidenzia i tenoni dei traversi inferiore ed intermedio e gli alloggiamenti ricavati sul montante.

This picture highlights the jambs slots and the intermediate and bottom transoms tenons.



> Posizionare l'articolo **TD52M HB3** sulla toupie.

A Specchietti Superiore
B e Inferiore

- PRIMA FASE -

Profilatura

Lavorare su tutti i lati i due pannelli preparati precedentemente (vedi punti 1 - 2 - 3), avendo cura di fresare per primi i due lati lungo vena.

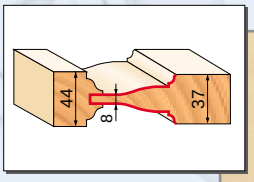
> Position item code **TD52M HB3** on the spindle moulder.

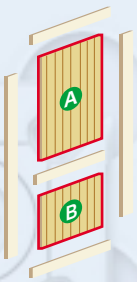
A Top and Bottom
B Inner Raised Panels

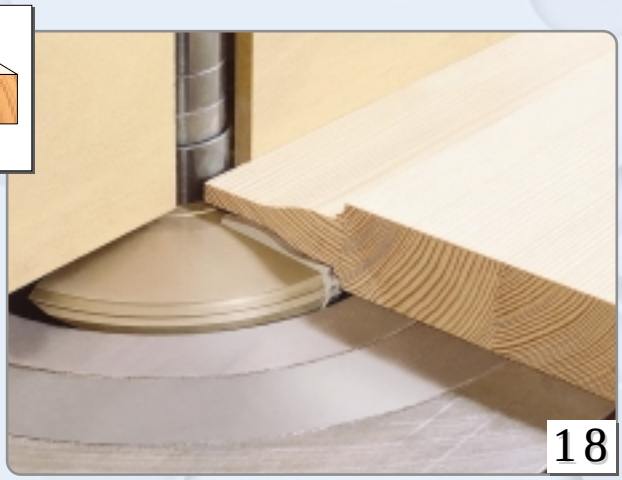
- FIRST PHASE -

Profiling

Work the two previously prepared panels on all sides (steps 1 - 2 - 3), making sure that you first machine the two sides along the grain.







> A Specchietti Superiore
B e Inferiore

- SECONDA FASE -

Profilatura

Ruotare i pannelli di 180° (sottosopra) ed eseguire le stesse procedure descritte al punto 17.

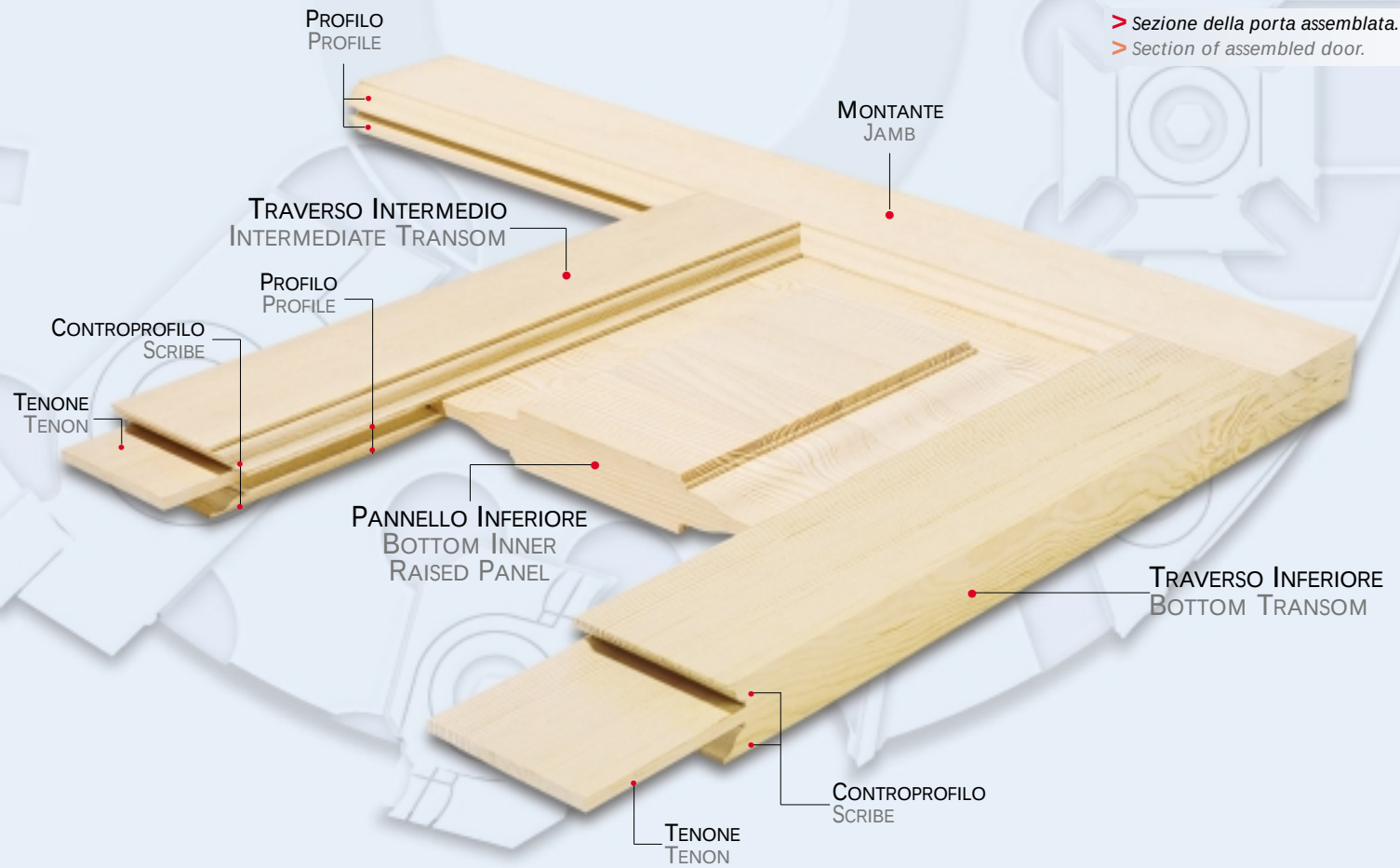
> A Top and Bottom
B Inner Raised Panels

- SECOND PHASE -

Profiling

Turn the panels upside down and carry out the same operations as those described in step 17.

> *Sezione della porta assemblata.*
> *Section of assembled door.*



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